

APRIL 30,  
1951

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THE  
INDUSTRY'S  
FIRST  
NEWS  
MAGAZINE

# American Aviation

## Win By Confusion

**I**F CONFUSION is our chief weapon against the enemy, we're well on the way to winning the war right now.

First we "write off" Korea as being of no strategic importance. So even the most stupid Russian could well feel free to move into South Korea.

We as much as said we didn't want it.

Then we go into complete reverse and move into Korea to defend it. It is probable that the U. S. S. R., which has never been able to understand the western mind anyway, considered

our previous "write off" to be a subtle trap to lure it on.

Once we're in Korea with a vengeance, we thoughtfully avoid destroying the reservoirs supplying power to Manchuria and we carefully refrain from bombing the enemy's air bases and even apologize when a couple of our men do stray on the other side. We even lose some B-29's because they were flying over the Yalu river and we don't consider it sporting to protect both sides of the bombers.

Then Mr. T. fires MacArthur who is the only living American who carries tremendous respect in all of Asia and down through the Philippines and Indo-China and Thailand and the Malay Straits and Indonesia, that vast area of mysterious peoples to whom "face" and a show of strength mean everything.

Doubtless the MacArthur firing has completely baffled the Kremlin and the boys in the Politburo are trying desperately to penetrate this latest cunning trap of the western world, because obviously a man like MacArthur wouldn't be just plain fired. Not the man who, if not revered, is at least respected or feared in the Orient. We wrote off Korea and then moved in to defend it, the Politburo regrets. We fired MacArthur but surely not to get rid of him—there must be a hidden meaning in it somewhere.

Excuses are always made for mistakes by youngsters who are growing up and perhaps excuses should be made for the United States in its effort to grow up to its position as the No. 1 power in the world. But the growing up is getting pretty painful and the mistakes and miscalculations and

(Turn to Page 8)



### New Jack & Heintz Executive

E. C. Sulzman, 18-year aviation industry veteran, has been appointed vice president and general sales manager of Jack & Heintz Precision Industries, Inc. He had been associated with Wright Aeronautical Corp. for many years as chief field engineer and for the past six years as sales manager.

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7-8



## THE COLLINS COURSE LINE INDICATOR

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- (b) Aircraft compass heading information and deviation from a selected compass course.
- (c) To-From information with respect to an omni range station.
- (d) Bearing information to or from an omni range station.

The Indicator also provides for selection of omni range bearings and for selecting any desired compass heading. Installation of this one instrument on the flight panel makes unnecessary a compass repeater with heading selector, an omni bearing selector and an omni bearing indicator or radio magnetic indicator. It also presents the same information as the vertical pointer of the flight path deviation indicator. But more important, the information usually supplied by all of these separate instruments is combined and presented on the Course Line Indicator in a pictorial fashion which is easily and positively interpreted. Not only is the aircraft's instantaneous situation immediately apparent but the future situation resulting from any maintained or changed heading is also readily predictable and can be quickly visualized.

Illustrated descriptive bulletin on request.

IN RADIO NAVIGATION, IT'S . . .

**COLLINS RADIO COMPANY, Cedar Rapids, Iowa**

11 West 42nd Street, NEW YORK 18

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### a LOOK at the WEEK

Laugh of the week among manufacturers was "raising" of National Production Authority's aircraft section to division status. NPA abolished all sections, made them into divisions, which in turn are under bureaus. Aircraft was tagged on to Textile, Leather and Specialty Equipment Bureau, and appears at very bottom of organization chart. Move, say manufacturers, accomplished absolutely nothing.

Manufacturers still don't have answers to number of questions relating to Controlled Materials Plan. Clarification is needed on priorities and other points. Officials are also wondering whether they'll be able to get number of materials not covered by CMP.

CMP will allot materials for construction of transport planes, but personal aircraft still await some kind of official endorsement from Defense Production Administration.

Nothing new on Aircraft Production Board but reports are that it's still planned. DPA Administrator Harrison is said to have selected the man to head it.

Next top Defense official to resign will be Assistant Secretary of the Air Force Harold Stuart, who will leave at end of May. He's been handling civilian components.

First installation of rearward-facing seats by Military Air Transport Service is scheduled for this month, probably in a Boeing C-97.

Look for substantial cut in fiscal 1952 federal airport funds, especially on projects involving extensive use of steel.

Controversial questions will mark meetings of International Air Transport Association traffic conference next week in Bermuda. Examples: Pan American's Atlantic tourist service plan (opposed by TWA), foreign lines' proposal to raise New York-London basic fare from \$375 to \$395, proposal to put extra charge on Sleeperette seats.

At least some airlines are losing pilots and co-pilots to military reserves and are starting to feel the pinch. They say they can't get deferments—best they can do is secure 85-day extensions. As result, they've lowered requirements for new co-pilot trainees.

### Plane Funds to Be Cut

Fiscal 1952 military defense budget will be less than originally planned, a further indication of a slow-down in the mobilization rate (*News Issue*, Apr. 23), despite Administration statements to the contrary. Here's the outlook:

**The Budget:** Instead of \$60 billion originally announced by President in January, revised budget is expected to call for less than \$50 billion, following trend established when 1951 third supplemental was cut from \$10 billion to \$6 billion.

**The Effect:** Substantial cut in aircraft procurement will undoubtedly result. Not only will there be less money available than expected, but military services have already made some commitments on their 1952 money.

**Possible Supplemental:** Observers don't feel, however, that the \$50 billion or less will be total amount appropriated for 1952; there'll probably be at least one supplemental after the first of the year. Amount will depend on international situation at the time. But this arrangement won't permit the accelerated mobilization the Joint Chiefs of Staff want, since they will be unable to count on any specific appropriation beyond original 1952 funds. These funds are highly inadequate for planned 1952 attainment of current service aviation goals.

### AF, Navy Increase Transport Orders

The military services, particularly Navy, are becoming increasingly interested in procurement of four-engined airline-type transports and have placed substantial additional orders.

Some time ago the services confirmed that they were scheduled to receive 29 DC-6A's and 22 L-1049 Constellations, but recent orders have boosted the backlog considerably. Some of these orders are on letters of intent based on fiscal 1952 funds not yet available. How they might be affected by a scaling down of appropriations (see story on this page) is not known.

**Douglas:** Company's military backlog of DC-6A's (Navy R6D, Air Force C-118B) now stands at 85 planes, mostly for Navy. Deliveries run well into 1953.

**Lockheed:** Navy has increased its original order for Super Constellations (Navy R70, AF C-121C) by about 55 planes, although some of these will be P0-2W early-warning flying intelligence center instead of standard cargo versions. Deliveries also run into 1953.

**Boeing:** Air Force continues large-scale procurement of Boeing C-97, military version of Stratocruiser.

### Defense Plan for Small Business

A major program designed to increase participation of small businesses in defense production, through sub-contracts and prime contracts, has been announced by Defense Production Administration.

Following eight steps, of interest to manufacturers are being urged by DPA:

**Tax Write-Offs:** Contractors will state in bid or negotiation whether more facilities will be needed to accomplish the work. If contractor will require certificate of necessity (for tax write-off) or priorities help, it will be submitted to National Production Authority before signing contract. This step is to make certain that no new facilities are authorized until existing facilities of same type are being fully used.



**Requirements Review:** Military services should review requirements and name specific items suited for distribution among a number of contractors.

**Subcontract Agreement:** Contracting officers should get agreement from suppliers that subcontracting will be used wherever possible.

**Incentives:** Prime contractors should offer more attractive financial arrangements to subcontractors.

**Price Differentials:** Defense Dept. should approve payment of justifiable price differentials to keep small business facilities intact, including use of marginal producers and payment of transportation penalties where necessary.

**M-Day Review:** Defense Dept. should review M-Day production allocation program with a view to broadening number of eligible contractors.

**Technical Aid:** All production and procurement agencies to continue programs of technical aid, production services and contracting and subcontracting aid to small business.

**Information Program:** Government agencies in order to find more suppliers, should undertake coordinated information program, including publicity on procurement methods, educational forums and exhibits, etc.

## Air Gains on Rail

Ten top U. S. passenger carriers in 1950 included four airlines, all of which increased their revenues over 1949, while only one out of six railroads showed an increase.

Following table shows rankings based on total passenger revenues:

Carriers	1949 Revenues	1950 Revenues	% Change
Pennsylvania Railroad	\$149,241,880	\$142,373,976	-4.6
N. Y. Central	122,451,363	116,597,098	-4.8
American Airlines	84,915,565	97,101,528	14.4
United Air Lines	72,388,958	77,959,298	7.7
Eastern Air Lines	61,293,018	69,084,327	12.7
TWA	52,750,808	60,889,740	15.4
N. Y., N. H. & Hartford	50,223,105	46,680,517	-7.1
A. T. & Santa Fe	47,926,535	44,813,019	-6.5
Southern Pacific	39,805,636	38,949,279	-2.2
Union Pacific	32,400,923	33,159,662	2.3

Of the \$713,397,800 passenger revenues produced by these 10 carriers in 1949, the four airlines' share was 38%, or \$271,348,349. In 1950, their share rose to 41.9%, or \$305,034,893 out of \$727,608,444.

## MANUFACTURERS

**Pricing Regulation:** As this issue went to press, manufacturers were awaiting issuance by Office of Price Stabilization of a general manufacturers' pricing regulation. Meanwhile, Economic Stabilization Agency had released a basic policy statement to be used in judging industry requests for price increases: no industry will be permitted to raise its prices if current dollar profits amount to 85% of the average of its three best years during 1946-49 period. Policy involves no rollbacks; it is concerned only with whether prices should be increased. It provides loophole for some companies: an individual company in an industry whose earnings are over 85% of the established base may get price increase authorization "to avoid serious hardships or inequities or to preserve enforceability."

**B-47 Production Program:** Joint meeting of Air Force, Boeing Airplane Co., Douglas Aircraft Co. and Lockheed Aircraft Corp. was held last week to lay preliminary plans for large tri-company production program for Boeing B-47 jet bomber. Boeing will build planes at Wichita, Douglas at Tulsa and Lockheed at Marietta, Ga.

**Douglas Splits Stock:** A two-for-one stock split and a 75c quarterly dividend on the increased number of shares has been voted by Douglas Aircraft Co. Authorized stock was increased from 1,000,000 to 2,000,000 shares, with directors voting an additional share for each share of record May 9.

**NAA Gets Lustron:** Navy took over idle Lustron plant at Columbus, O., on Apr. 20 and turned it over to North American Aviation for plane production.

**People:** Leo A. Carter, general manager of Douglas Aircraft's Santa Monica division, and T. E. Springer, general manager of El Segundo division, have been elected vice presidents of the company . . . Kendall Perkins, manager of engineering for McDonnell Aircraft Corp., has been elected vice president-engineering . . . Edward K. Foster elected vice president and member of executive committee of Bendix Aviation Corp.

## PLANES & EQUIPMENT

**Jetliner Sidetracked:** A. V. Roe Canada has discontinued production of the second prototype Jetliner transport to direct development efforts toward company's CF-100 and other military projects, according to Sir Frank Spriggs, managing director of Hawker Siddeley Group Ltd., parent company of Avro. There are no immediate plans for continuing development of this larger C-102 while international situation remains uncertain, he said.

**Jet G-20:** Experimental installation of four General Electric J-47 jet engines in Chase Aircraft Co.'s G-20 heavy glider has been made by Air Force "to determine the feasibility of converting a conventionally-designed aircraft to jet power." G-20 is glider version of Chase XC-123 twin-engined assault transport, which is undergoing flight evaluation as piston engine plane.

**Taylorcraft Developments:** Taylorcraft Inc. reveals that it will (1) have first four-place "Tourist" planes coming off the line in about 90 days, selling for \$5,950, (2) build as many two-place BC-120D "Sportsman" planes as availability of materials will allow, selling 85-hp model for \$3,895 and 65-hp for \$2,865, (3) allow dealership discounts of from 15% on first plane to 20% for five planes purchased in one year. Dealers are allowed 20% discount on all parts, and dealership requirements have been drastically simplified.

**Longer R-4360 Time:** CAA has been asked by Pacific-Alaska Division of Pan American World Airways to extend time between overhauls to 900 hrs. on all Pratt & Whitney R-4360 engines powering its Boeing Strato-cruisers. Division previously had approval to operate one engine per plane to 900 hrs., other three being required to have less than 800. Operational experience prompted application to use 900-hr. cycle on all engines. Division recently obtained approval to go from 500 to 600 hrs. before overhaul of General Electric turbosuperchargers used with 4360's. Pacific Airmotive Corp. overhauls PAA's engines; GE overhauls superchargers.

**Regent Rocket:** The Regent Rocket, all-metal five-passenger tricycle-geared plane powered by 260-hp engine giving it 198 mph sea level cruising speed, was scheduled to make first flight last week. Designed primarily as executive or charter plane, it may also be fitted to handle two litter cases.

**H-18's Delivered:** First three H-18 helicopters have been delivered to Army Field Forces by Sikorsky Aircraft Division of United Aircraft Corp. Two will go to Ft. Bragg, N. C., and one to Wright-Patterson AFB, Dayton, for flight evaluation. H-18 is three-place utility craft.

**XH-17 Progress:** Hughes Aircraft Co. has at least six months' work to do on flight controls and other installations on large XH-17 jet helicopter before craft will be ready for flight tests.

**Anti-Icing System:** New electrically-heated anti-icing system, called the Iceguard, has been developed by Goodyear Tire & Rubber Co., and it has been installed

(Continued opposite page 42)





## First - ON JETS!

ON no other type of aircraft is the need for safe, rugged, dependable landing gear so imperative as on the modern jet aircraft. It is significant that from the first Lockheed Shooting Stars in 1944 more American jet aircraft have been equipped with Goodyear tires, tubes, wheels and brakes than with any other kind. The reason? Superior quality, superior performance—characteristic of all Goodyear aviation products. For complete information write:

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APRIL 30, 1951

# American Aviation

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## other publications

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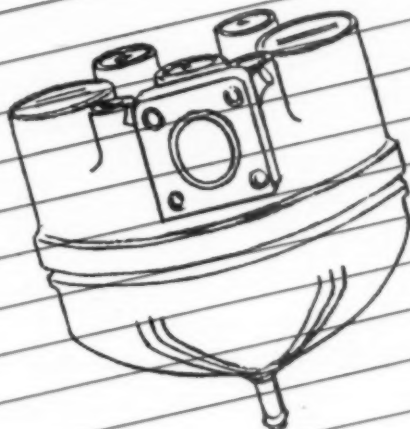
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AMERICAN AVIATION

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misjudgments in foreign policy are getting pretty hard to take.

There are good arguments on both sides as to whether Asia or Europe should be the coming battleground, but there is hardly any excuse for just giving up Asia by default. There is a very sound argument that generals should follow the orders of their superior officers, but firings have backgrounds and we are more concerned with the background of failure in our Far East policy than with the mere removal of a commander.

Perhaps the most serious blunder was the method used in summarily firing a man whose leadership has been in the Orient. Loss of face there is of the utmost importance. No first-rate power would act so hastily without taking care to safeguard its prestige in an area where prestige is so important.

Despite our reversal of attitude toward Korea by deciding to defend it last summer, our display of strength in that country has had an extremely healthy effect throughout Southeast Asia. We proved to the Orient at once that the Commie-backed North Koreans and later Mao's regime were not first-rate powers. We proved we could stay in Korea at least long enough to demonstrate that Mao could not make good his boastings on short order. Any semblance of a negotiated peace that means the slightest loss of face for the western world will be a tragic blot on U. S. history.

The basic fault with American foreign policy is its lack of balance. We have dawdled over the Iran problem and we have mishandled our relations with the entire Arab world. We sat by quietly and lost out on a great deal in Asia. We dream that our Voice of America is enchanting hundreds of millions of eager listeners around the globe but the Voice is, in fact, a costly flop dealing out dull and uninspired programs to people who have no real desire or urgency to listen even if they had radios. We make foreign policy moves based on reaction at home without realizing the repercussions abroad.

Of course all of this may be to the good. Confusion, just possibly, could be the one weapon that will drive the Politburo to surrender without a fight. They'll go batty just trying to figure out what cockeyed move we'll make next.

## The Sun Shines All Over

**WE HOPE** you didn't miss a significant statement in the annual air transport issue of this magazine published April 16.

The domestic trunk airlines received about \$45 million in mail pay both in 1949 and 1950.

In 1949 the trunks required about \$20 million of that mail pay to break even.

In 1950 these same trunks netted \$15 million in operating income *before* mail pay.

This is real progress toward elimination of any taint of subsidy. The Big Four, especially American, turned in extraordinarily good records. When Federal taxes exceed mail pay by substantial margins, then there's something to crow about.

The year 1951 is starting out with a bang. The January-February-March "slump" dissipated into thin air. Seats are harder to get than white sidewall tires. And we'll make a bet that the traditional July "slump" simply won't exist this year.

## Let's Try The Doves

**W**IGGINS AIRWAYS, the little local service airline in New England, wants to buy a couple of de Havilland Dove transports from Canada to try out on its feeder routes. But in order to make good use of the Doves, Wiggins believes it should have an entrance into New York City. CAB has not indicated any immediate interest in this proposal.

It is our policy generally to stay far away from any editorial opinion on route cases, but Wiggins seems to be an exception that makes the rule. If we are going to learn the full economic story about local service routes, there ought to be a complete record of experience. The twin-engined Dove, which is flying on many routes in the world, would seem to constitute a worthy experiment. We think the CAB might well expedite the Wiggins route case to permit a Pittsfield-New York City route on which the Dove would be able to build up an experience record of value to all local service operators.

## Air to the Rescue

**A** LOCUST infestation was threatening Iran. The Iranian Prime Minister appealed to the U. S. Department of State for aid in combatting the menace. The Department contracted with U. S. Overseas Airlines to fly two C-54's loaded with lightplane dusters, insecticides and technical personnel.

This is the kind of international assistance that means something and it should open up many new avenues of usefulness for U. S. civil aviation. Many areas of the world need crop dusting and destruction of insects. Let's have more of this kind of work and let's utilize some of our crop-dusting experts to increase food production around the world. Airborne divisions don't always have to be military.

## This Is Good Work

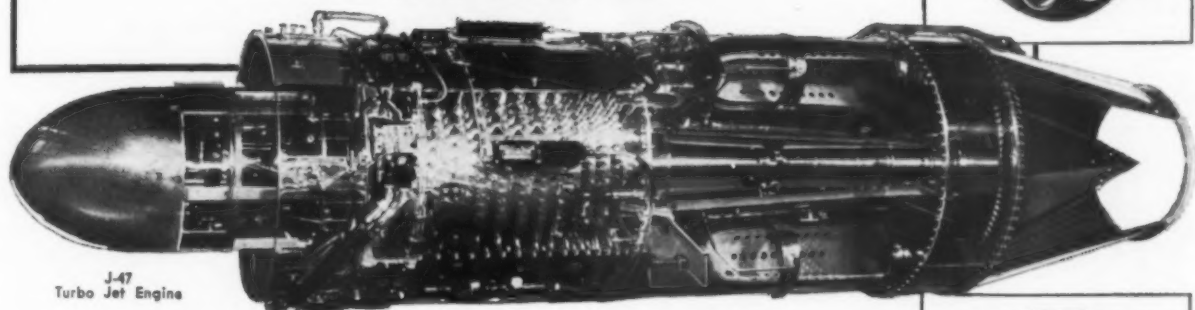
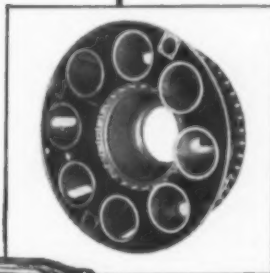
**T**HE CAA reported recently that it trained 74 men from 20 foreign countries during the last half of 1950. Some of these men were trained at the CAA's Aeronautical Center in Oklahoma City. Others were given on-the-job training at CAA offices and installations, in factory service schools, airlines, and other places. This is a fine project by CAA and deserves wider publicity than it has received. The practical training of foreigners in advanced aviation procedures accomplishes a great deal—much more than some of our other governmental programs. We hope CAA keeps it up.

WAYNE W. PARRISH

AMERICAN AVIATION

# JET ENGINES and COMPONENTS *by* FAIRCHILD

Rear Frame



J-47  
Turbo Jet Engine

The Fairchild Engine Division is designing, and producing specialized turbine engines—some of them for unconventional applications—and is mass producing such vital components of General Electric's J-47 engine as the turbine wheel and shaft, nozzle diaphragm, and the forward and rear compressor frames—main supporting structures of the engine.

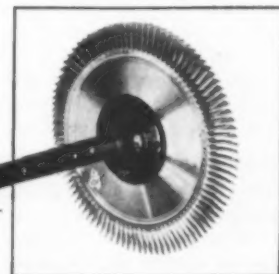
Geared to the exacting requirements of aircraft engine production, Fairchild is able to meet the expanding demands of the military establishments and take its place in the rearmament program; producing in volume urgently needed components and pressing forward the development of turbine and reciprocating engines for specialized application in the military equipment of the future.



Forward Frame



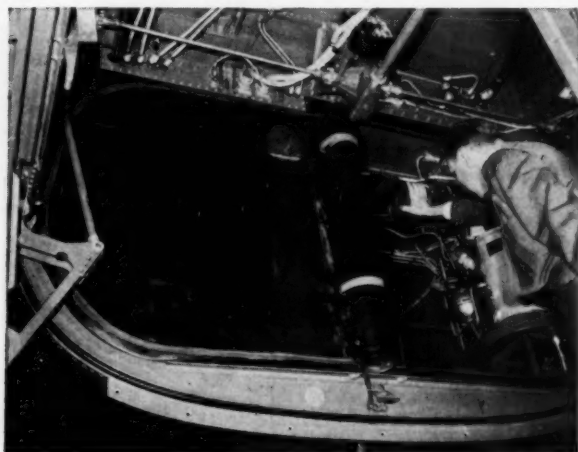
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# B.F. Goodrich



## Open and shut case for B. F. Goodrich zippers

**Shuts up torrent of hot air.** Designers wanted to make the hot air duct in the Douglas C-124 (*top left above*) in 6-foot sections. They needed a strong, flexible coupling that would permit easy removal of the sections. B. F. Goodrich Pressure Sealing Zippers proved ideal. They provide a 100% seal, resist the heat, resist damage, speed maintenance.

**Sealed lips hold secret of faster maintenance.** Flap seals that join aileron and wing posed a maintenance problem on the B-36 (*top right above*). Taking off the aileron meant removal of hundreds of screws fastening the 60-foot seal. Convair engineers tried putting a B. F. Goodrich Pressure Seal-

ing Zipper down the middle of the seal. Result: the zipper's overlapping lips keep a tight seal. And mechanics can simply zip the seal off.

**Keeps fumes from bothering plane's nose.** The Lockheed Neptune's problem was to keep fuel fumes from the bomb bay out of the forward compartment—yet keep a ready entrance between the two. BFG engineers built a mammoth curtain. A Pressure Sealing Zipper runs all the way around the edge, making the curtain airtight and also easily removable. (*Bottom left above*).

**60" bag holds 12-man boat, unzips itself in seconds.** The Coast Guard needed a storage case for inflatable life

rafts. A case that would seal out the water and oil, be easily portable and open quickly. BFG engineers designed a case with a Pressure Sealing Zipper running all the way around and an instantly-opened lock (*bottom right above*). The case is water-tight. It unzips automatically as the boat inflates. The launching operation can be handled by one man. If you have a problem that a zipper might solve, check into B. F. Goodrich Pressure Sealing Zippers. The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.

**B.F. Goodrich**  
FIRST IN RUBBER

AMERICAN AVIATION



## GE Tests with B-45 Tell . . .

## What to Expect in Jet Transport Operations

**T**HERE APPEARS to be no good reason why a jet transport of the same general type as the North American B-45 could not operate safely from most commercial airports today, if restricted to dry runways.

This is probably the most important conclusion reached to date in an accelerated service test program of this four-engined jet bomber now under way at Schenectady, N. Y., by the Aircraft Gas Turbine Divisions of General Electric.

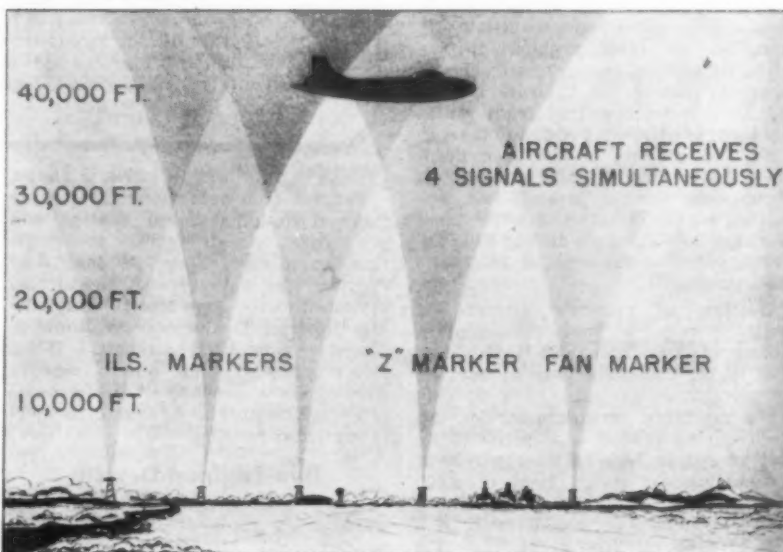
Under contract with the U. S. Air Force, GE has now completed eight months' flight testing, including more than 70 flights, in what is undoubtedly the most significant development in this country's attempt to gain accelerated service test information on jet-powered aircraft, particularly jet transports.

Important lessons learned from this experimental operation were outlined for the first time at the Society of Automotive Engineers' aeronautic meeting in New York last week.

## What Was Learned

These highlights, reported by N. N. Davis and E. M. Beattie, American Airlines' flight personnel loaned to GE for the operation, were:

1. **The effect of turbulence** at high altitudes, 35,000 to 40,000 feet, has proved negligible but clear air gusts between 25,000 and 35,000 feet sometimes call for reduced speed.
2. **Navigation and communications** are particularly bothersome at high altitudes with very high frequencies becoming as cluttered as the high frequencies. At 40,000 feet, pilots (see cut) sometimes hear two to or more fan markers, one or two ILS markers and the Z marker, while the ADF needle swings irregularly, making position determination difficult.
3. **To descend from 35,000 feet** and maintain range requires a descent rate of about 2,000 feet per minute or 17.5 minutes and a distance of 100 miles. Although cabin pressurization provided by bleeding air off the engine compressors makes 3,000 to 5,000 feet per minute descents permissible without appreciably affecting cabin pressure,



## How Cluttering Bothers Jets

Jet operations at high altitudes face real problem in navigation and communications, the GE tests show. At 40,000 feet, the pilot sometimes hears two or more fan markers, one or two ILS markers, and the Z marker, while the ADF needle swings irregularly, all making position determination difficult.

limiting aircraft Mach number is a critical factor.

4. **Instrument flying** in jet aircraft is a neglected subject but use of established procedures for conventional aircraft with minor variations would be practical.
5. **Go-arounds and touch-and-go landings** are practical, provided the engines are handled properly. Contrary to popular opinion, acceleration of the turbojet is adequate to handle this condition.
6. **Clean aircraft design** and lack of propellers for deceleration makes operations off ice- or snow-covered 5,000-foot runways impossible.
7. **Properly handled the jet engine** appears quite reliable.
8. **Bleeding of engine compressor air** for cabin and wing de-icing as well as for cabin pressurization appears practical and trouble free.

The B-45 operated by General Electric has an allowable gross weight of about 100,000 pounds. In attempting to stay within the Civil Air Regulation transport category requirements, operating from a 5,000-foot runway, GE kept gross weight during the tests down to 75,000 pounds. This included fuel loads of 3,700-4,000 gallons. Powered by four General Electric J-47 engines, rated at 5,200 pounds' thrust each, the B-45 has a 550-mph speed.

## Little Maintenance

The tests are being conducted to determine the effect of engine operating procedures, engine maintenance and inspection procedures, basic engine design, etc., on engine service life. In accumulating more than 175 hours per engine for a grand total of 746 engine hours, GE found maintenance requirements relatively light.

Only one instance of serious malfunctioning was encountered, several

cracked turbine buckets, after 175 hours' operation. Number of man-hours spent on engine inspection and maintenance was about half that of piston-engine experience.

Using conservative engine starting procedures, starting one engine at a time, it takes about nine minutes to start all four engines and get them to idle speed. This takes about 50 gallons of fuel. Starting two engines at a time to cut starting time in half would require larger ground power units than in use today.

### Air Blast Avoided

By keeping engine idling rpm at about 38% of maximum allowable rpm, no air blast problem in the adjacent area is encountered. This is adequate power for taxiing. During the 15 minutes required from initial starting of the engines to takeoff, some 200 gallons of fuel are used. Takeoff at 75,000 pounds' gross takes about 2700 feet of ground roll, requiring about 27 seconds, with speed reaching 130-135 mph during the run. Climb speed is 350 mph at 100% engine power.

Getting to cruising altitude is critical from a fuel consumption standpoint and Davis and Beattie feel that traffic clearance priority for the jet aircraft is advisable. The 57-gallon-per-minute consumption for the B-45 during takeoff and initial climb can be cut to 1,000 gallons per hour by cutting air speed even at 5,000 feet altitude. Even so a 15-minute delay at 5,000 feet would result in a loss of nine minutes flight time, 115

## New Piper Feeder Plane Coming?

WITH an eye probably on the feeder and executive aircraft market, Piper Aircraft Corp. has applied to CAA for type certification of a twin-engined aircraft still in the early plan stage.

Final form of the plane, designated the PA-23, has not yet been decided, William T. Piper, president, stated, since ideas of factory engineers and operators are still being studied. Actual construction is not expected to start for "a long, long time," he said.

The "cut and try" method of first building a plane and then drawing the blueprints will be used. This method is credited with reducing time drastically in designing the Piper Vagabond model, and was also followed by Hiller in designing his 11-pound jet engine.

There's definite advantage in applying for type approval early. It permits the manufacturer to build the plane under existing regulations, eliminating the need for the builder to make expensive and time-consuming minor changes as CAA regulations change. Only important safety changes in airworthiness are made retroactive by CAA.

gallons in fuel and 70 miles in range.

Trouble-free operation of the wing thermal de-icing, cabin heating and pressurization, all tapped from the final compressor stage of each J-47 engine, was experienced and actual operation was considered "functionally superior to any now available in piston-engine type aircraft." When two engines were cut out to improve holding time, capacity of the remaining engines proved adequate to meet operational needs.

### Two-Engined Descent

Lack of dive brakes on the B-45 made high rates of descent exceed the allowable aircraft Mach number.

Cutting out one or two engines during long descents from 40,000 feet helped alleviate this condition while conserving fuel. While engines were shut off as standard practice in some instances, no actual "blow-out" occurred during the tests and restarting of engines otherwise stopped proved easy.

Ability to lower the landing gear at relatively high airspeeds would be of considerable value in speeding traffic control. While the B-45 was restricted to 185 mph with gear extended, appreciably higher than conventional transports, the GE pilots recommended that ability to lower the gear at speeds of 350 mph or use of dive flaps would be a valuable asset in speeding up approach procedures.

While the approach speed of the B-45 is no higher than some large piston-engined aircraft, the clean design of the aircraft and absence of propellers make the landing run critical. At gross weights of 55,000 to 70,000 pounds, landing over a 50-foot obstacle, the B-45 can be stopped in 4,000 feet on dry macadam runways. On snow- or ice-covered runways, 5,000 feet is not space enough for stopping the aircraft but wet runways alone are not too serious.

### Discount Drag Chutes

The GE engineers look on drag parachutes, used to reduce landing roll, as possibly "too unwieldy and undependable for transport operation" and there appears to be no equivalent for the reverse-pitch propeller, unless reverse thrust is provided on jet engines. While the tires apparently get more abuse in stopping the plane without aid of the reverse pitch propellers, indications are that 200 to 300 landings could be expected. Use of anti-skid devices might increase tire life and reduce brake wear.

Much of the data uncovered by the General Electric-U. S. Air Force tests remains restricted.



**Bristol 173**—First prototype of the 13 passenger Bristol 173 helicopter is scheduled to fly in the near future. The 173, built by Bristol Aeroplane Co., grosses 10,600 pounds, is powered by two 550-horsepower Alvis Leonides engines, has a maximum speed of 142 mph and maximum cruise speed of 105 mph. Maximum rate of climb is 1,150 feet per minute, service ceiling about 19,600 feet. With rotor folded the 173 is 78 feet 2 inches long, 17 feet wide and 15 feet high. Cabin is 26 feet 2 inches by 5 feet 3 inches wide by 5 feet 8½ inches high.

# More Payload and Speed for Delta's DC-6's

... Engine, Prop Conversion to Cost \$500,000

By WILLIAM D. PERREAULT

**D**ELTA Air Lines is initiating a \$500,000 conversion program on its Douglas DC-6's which will include the installation of Pratt & Whitney R-2800-CB-16 engines and new high-activity Hamilton Standard propellers on its seven-plane fleet. This may well be the start of similar programs by a number of airlines to provide a single improved

A 20% increase in payload for the same take-off distance or a 20% decrease in runway length will be possible for Delta's DC-6 fleet, after the planes are modified by installation of Pratt & Whitney R-2800-CB16 engines and high activity propellers. Cruising speed would be increased from about 312 to 335 mph.

engine for both twin- and four-engined transports.

Possible industry-wide application of this R-2800 conversion program stems from United Air Lines, American Airlines, Delta, Braniff, Continental and Western Air Lines having operated Douglas DC-6's or Convair 240's with the early model R-2800's and now having airplanes delivered or scheduled for future delivery with the CB-16 series. Both standardization and operational flexibility would favor the engine modification.

Delta will convert its present R-2800-CA-15 engines to CB-16 engines in its own overhaul shops. Parts for this conversion are being ordered and the work is scheduled for com-

pletion about the time Delta starts to operate its recently ordered Convair 340's, about 12 to 18 months from now. This means that when the Convairs are put into operation the basic engines on both their DC-6's and Convairs will be the same.

This is the philosophy which has prompted a number of the scheduled airlines taking delivery on Convair 340's and Douglas DC-6B's to carefully review the possibilities of converting earlier model R-2800 engines to the improved CB-16 series.

## What It Would Cost

Using the Convair Liner as an example, it has been reliably estimated that it would cost \$5,500-\$6,000 per engine for conversion parts with structural changes in the aircraft adding another \$3,000 for a total cost per airplane of about \$15,500 for the conversion. In return the operator would gain about 15 miles per hour cruising speed up to a 10,000-foot altitude in low blower and some 27 miles per hour at 15,000 feet in high blower. In addition the operator could use low blower up to 17,000 feet altitude with resultant economy of operation.

The airlines are operating both CA-15 and CA-18 engines in the DC-6's, Martin 2-0-2's and Convair Liners. These engines are improved models of the World War II R-2800 engines. They are rated at 2,100 horsepower dry or 2,400 hp. with water injection. Authorized cruising horsepower is 1,100 brake hp.

The R-2800-CB-16 engine is a 2,400-hp. engine. Its major advantage over the CA series engines lies in its supercharging. This increases its

available horsepower to a degree which will permit the airlines to operate with higher gross weights from shorter runways. Improved supercharging on the CB-16 series has been accomplished by a series of improvements including a completely new and larger impeller and different drive ratios.

This is the way impeller drive speeds, in relation to engine crankshaft speeds, look on the three models of the R-2800:

Series	Low Blower	High Blower
CA-15	7.29 to 1	9.45 to 1
CA-18	7.29 to 1	9.1 to 1
CB-16*	7.21 to 1	8.58 to 1

(\* CB-17's used by Eastern are basically the same except they have no high speed.)

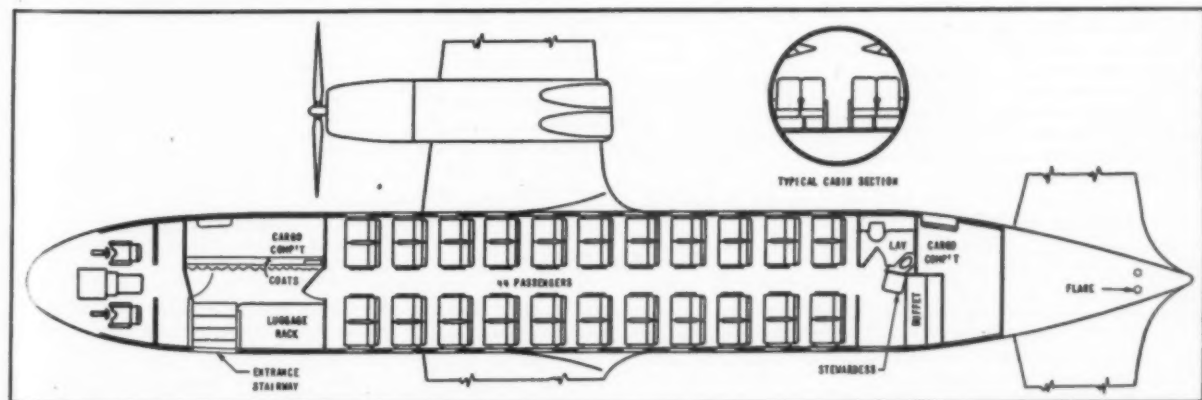
In addition to the change in impeller or supercharger drive speeds, the impeller of the CB-16 engines are about one inch larger in diameter and about 1½ inches thicker. The impeller is of greater capacity and consequently will supply the required volume of air for maintaining engine power to a higher altitude and temperature.

## Length Increased

The existing tolerances in the R-2800 CA series engine would not permit this added impeller size within the same case. This meant that a three-inch ring had to be added to the length of the blower section.

In practice this three-inch ring is not added to the present case but is, instead, part of a complete new section installed as part of the modification program.

The CB-16 series engine also uses an improved fuel distribution system



**New Arrangement**— Newly announced order for 10 Convair 340's by Delta Air Lines brings the backlog for the new plane to 76 and will make the planes' new interior arrangement a common sight on five

airlines. Note the relocation of the step type door to the left side, the 44-passenger seat arrangement and the larger forward cargo compartment.



in which part of the fuel is discharged through a slinger-ring arrangement on the aft end (rear of engine) of the impeller as in the initial engine series and the rest is sprayed through small holes drilled between the vanes of the impeller.

### Minor Cowling Changes

Installation of the CB-16 engine in any of the three aircraft mentioned requires minor changes in the engine cowling to accommodate the longer engine.

In addition to the standardization of both engines and propellers which Delta expects to achieve between the DC-6 and Convair 340, tangible operational benefits include permitting use of higher gross weights from runways now limiting payloads.

This increase is explained by the rapid drop-off in engine power experienced with the CA series due to supercharger limitations which do not exist on the CB series. Even with water injection the CA-series engine loses 40 horsepower in the first 600 feet of climb during take-off. The CB-16 maintains full 2,400 hp. up to 4,400 feet above sea level, can maintain 1,850 METO power at a 9,000-foot altitude and is capable of 1,200 brake hp. in cruising where the CA engine is limited to 1,100. This 400 additional horsepower during cruising on the Douglas DC-6 will boost cruising speed from about 312 to 335 mph.

## Why CAB Won't Dismember WAL

Civil Aeronautics Board has abandoned tentative plans for dismemberment of Western Air Lines' routes.

Sharp about-face in trend of Western's operations since start of Board investigation in February, 1949, and substantial reduction in mail pay need were responsible.

Coupled with dropping of similar proceeding against National Airlines recently, action indicates Board now views with optimism individual trunk lines' chances of reaching self-sufficiency in near future. Only dismemberment docket now open involves Northeast Airlines. It was instituted at the same time as the Western investigation.

### Similar to NAL Case

Western's story is analogous to National's. For a 4½-year period ending December 31, 1948, its break-even mail pay need was over \$2 million. For 1948 alone it was \$1,800,000. Its current liabilities were substantially in excess of current assets.

The year previous, noting Western's worsening condition, CAB ordered investigation of the carrier's finances. But when unimpressive facts of 1948 operations became known, the Board

broadened the investigation to consider possible absorption of Western by another airline, transfer of some or all of its routes to other carriers, or outright suspension of its certificate.

But in 1949, the carrier's break-even mail pay need was reduced 16 per cent below that of 1948. In 1950, reduction was 90 per cent. From a net operating loss in '48, Western showed net operating profits of \$480,000 in '49 and \$788,000 in '50.

It became one of the country's leading scheduled coach operators and successfully captured a large share of the low-fare traffic moving between Los Angeles and San Francisco which had been using non-scheduled airline services.

Under these circumstances, CAB said, "we do not believe it to be in the public interest to continue the formal inquiry" started two years ago.

## Joint NAL-Panagra N. Y. Service Okayed

Proposal of National Airlines and Pan American-Grace Airways for interchange service between New York and South America has been approved tentatively by the Civil Aeronautics Board.

Subject to a final decision, expected this month, interchange may be operated until completion of the New York-Balboa Through Service Proceeding in which permanent interchanges will be decided on.

Also, since Panagra's northern terminal is Balboa, CAB approval of the interchange was coupled with temporary extension of the Pan American-Panagra Through Flight Agreement under which Panagra operates its planes over PAA's Balboa-Miami route. This was necessary to effect a National-Panagra junction at Miami.

Strongly opposed by Pan American and the Pan Am interests in Panagra, the interchange is expected to start with one daily DC-6 flight in each direction between New York and Buenos Aires. Tentative plans call for use of Panagra's aircraft over the entire route with National paying a rental based upon costs and a fair and reasonable return on its investment. Eventually, aircraft of both lines may be used in the operation.

### Pan Am Objects

Pan American, however, has asked CAB to reconsider its approval. Since National, by unilateral action, cancelled various stock option agreements with Pan Am last December, the latter has opposed inclusion of National in through U. S.-Latin American interchange plans. In fact, it negotiated an interchange agreement with Eastern Air Lines, left it

open for participation by Panagra, and applied for CAB approval.

Board recently deferred action on it, however, for consideration with other possible operations to be considered in the New York-Balboa Case. These include possible permanency of the National-Panagra service and an Eastern-Braniff operation which, to achieve a junction, would require certification of either Eastern or Braniff between Miami and Havana.

## Aviation Calendar

May 1-17—American University, Fourth Foreign Transportation Institute, Washington, D. C.

May 4—National Handling Exposition, International Amphitheater, Chicago.

May 4-6—National Intercollegiate Air Meet, Max Westheimer Field, Norman, Okla.

May 12-13—Airlines Medical Directors Assn. eighth annual meeting, Hotel Shirley Savoy, Denver.

May 13-14—Airlines Medical Examiners Assn. fourth annual meeting, Hotel Shirley Savoy, Denver.

May 14-16—Aero Medical Assn. 22nd annual meeting, Hotel Shirley Savoy, Denver.

May 19-20—National Pilots air meet and races, Chattanooga Municipal Airport, Tenn.

May 21-24—Society of Aeronautical Weight Engineers tenth annual conference, Hotel Jefferson, St. Louis, Mo.

May 23-24—American Society for Quality Control fifth annual convention, Hotel Cleveland, Cleveland, Ohio.

May 23-25—Institute of Radio Engineers Technical Conference on airborne electronics, Biltmore Hotel, Dayton, Ohio.

May 24-25—Society of the Plastics Industry annual national meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

May 26—Maintenance and Operation Annual Clinic, Municipal Airport, Reading, Pa.

May 28-29—Aeronautical Training Society annual membership meeting, Mayflower Hotel, Washington, D. C.

June 3-8—SAE Summer Meeting, French Lick Springs Hotel, French Lick, Ind.

June 13—American Society of Mechanical Engineers semi-annual meeting of aviation div., Toronto.

June 13-16—AWA Annual Convention, Hotel Commodore, New York, N. Y.

June 18-22—American Society for Testing Materials annual meeting, Atlantic City.

June 27-28—I.A.S. annual summer meeting, Western Hqs. Bldg., Los Angeles.

June 28-30—Institute of Navigation annual meeting, Hotel New Yorker and Kings Point, N. Y.

### International

May 8—IATA Traffic Conferences 1, 2 and 3, Bermuda.

June 5-5th Session, Int'l Civil Aviation Organization, Montreal.

June 15-July 1—Paris Int'l Aircraft Exhibition 1951, Grand Palais and Paris airport.

June 23—British Nat'l Air Races 1951, Hatfield Aerodrome, Hertfordshire, Eng.

June 26—Int'l Civil Aviation Organization, 3rd European Mediterranean Regional Meeting, location undetermined.

## •AF's Little-Known 'SAM' Provides Airlift for VIP's and GI's With Remarkable Safety

By James J. Haggerty, Jr.



MILITARY Air Transport Service, the Air Force's air lift command, is pretty well known, but MATS has a little brother, name of SAM, not so well known but who deserves to be. "SAM" is the familiar name of the 1100th Special Air Mission Group of the USAF. Where MATS is primarily concerned with the movement of cargo and troops, SAM has a more specialized mission: to provide lift for VIP's (very important persons) from the Air Force, Army or any of the government agencies in Washington and to handle the lift needs of various Army units throughout the country.

SAM is headquartered at Bolling Air Force Base, D. C., and is commanded by Col. J. F. "Frank" Mears, a quiet-spoken South Carolinian who jockeyed a B-24 bomber through 50 missions over Europe with the 15th Air Force last war. The group has seven squadrons scattered about the country.

Top Army commanders have to do a lot of traveling to keep in touch with their commands, and frequently the bases they have to visit are in such locations that it would be difficult, if not impossible, for them to travel by commercial air. So five of the SAM squadrons were assigned to work directly with Army commands for this purpose. These five units are the 1113th SAM Squadron, based at Pope AFB, N. C., which works with the Fifth Army Corps at Fort Bragg, N. C.; the 1114th at O'Hare International Airport, Chicago, Ill., working with the Fifth Army; the 1115th, Dobbins AFB, Marietta, Ga., Third Army; the 1116th, Brooks AFB, San Antonio, Tex., Fourth Army; and the 1117th, Hamilton AFB, Calif., Sixth Army.

In addition, there is the 1118th SAM Squadron, based at Maxwell AFB, Ala., which is used to haul high-ranking visitors and lecturers to and from the Air University and to haul AU students on demonstration flights as part of their courses. Each of these six squadrons has from three to six Douglas C-47 or C-117 aircraft, the latter being a C-47 with a modified interior.

### Plush Jobs for the Brass

But the mainstay squadron of SAM is the 1111th, based at Bolling. To the 1111th goes the chore of carrying the Washington brass. The 1111th has 29 C-47's or C-117's, five "plushed-up" Boeing B-17's and four North American B-25's, also with plush interiors. The combined seven squadrons haul about 2,025 passengers a month.

Pilots for SAM are selected with unusual care. They must first, as Col. Mears explains, be high-calibre Air Force officers, neat in appearance and courteous.

"Flying the airplane is extremely important, but it's just one part of the job," says the C.O., who feels that SAM crew members must be "deputy public relations officers," since some of the high-ranking civilians in government agencies SAM carries have no contact with the USAF except through SAM crews and the impression they make, therefore, is highly important.

But let's not give the impression that SAM underlays flying ability in selecting personnel. Far from it. All SAM crews are hand-picked for flying proficiency as well as appearance and are given regular quarterly instrument and flight proficiency checks; those who fail to pass these checks go elsewhere in the AF.

SAM has a reputation throughout the Air Force for having some of the best transport pilots in the business. A number of them have between 6,000 and 7,000 flying hours; some have even more. The average SAM pilot flies 65-70 hours a month, but the average is pulled down by the fact that the administrative officers, squadron commanders and operations officers of the group fly an occasional mission to "keep their hands in." (Col. Mears takes an occasional trip himself). The average monthly flying time for "duty officers," or the regular crews is over 100 hours.

### Heavy Weather Pilots

The emphasis is on instrument flying. "We very rarely cancel a flight because of weather," says Col. Mears. SAM planes can be found ploughing along in heavy weather when all the airlines are grounded, because VIP's, whose time is valuable, can't spend days on the ground waiting for a weather front to lift. Practically all SAM's first pilots have "green cards," which means they have passed the stiffest instrument flight checks the Air Force can invent.

But despite the amount of heavy weather flying SAM does, it boasts a surprising safety record: .0054 fatal accidents per thousand hours flown. SAM has had only one fatal accident since it was organized in March, 1945. In August, 1948, a SAM C-47 was struck in mid-air by a B-25 on a training flight; the C-47's wing was torn off and it spun in, killing nine. An investigation disclosed that the B-25 had not complied with local flight regulations, so SAM was blameless for its lone accident. Prior to the crash, SAM had flown over 50,000,000 accident-free passenger-miles; since that time the group has flown another 70,000,000 safe passenger-miles. The GI airline has flown a total of 24,000,000 plane-miles in more than 188,000 flight hours.

SAM handles most of its own maintenance, with assists from the base maintenance organizations where SAM units are stationed. Like flight crews, SAM's maintenance personnel are hand-picked for ability, undoubtedly a contributing factor to the group's remarkable safety record.

### Airline Accommodations

SAM runs an airline-type operation, complete with passenger terminals, in-flight meals and stewards to administer to the needs of the passengers. SAM is the GI's friend, for it encourages, rather than frowns on, hitch-hiking for soldiers and sailors on furlough or emergency leave; it even provides them with a reservation desk where they can apply for a ride. Col. Mears feels that if a plane goes up in the air it might as well be filled, so if a furloughed GI and a SAM plane happen to be going in the same direction, the GI can get a free ticket. Provided, of course, that the "big brass" for whom the mission was set up don't object, which they rarely do. As a result the group operates at nearly 100% load factor all the time.

The group has no four-engined equipment other than the slow-moving B-17's. "We'd sure like to get some big ones," says Col. Mears, "but we're a low-priority outfit." So SAM will struggle along for a while with the old, faithful "Goonie-Birds," as the SAM crews refer to the C-47's and C-117's.

## PRODUCTION SPOTLIGHT

**P2V Attracts Foreign Interest:** Lockheed Aircraft Corp. has received expressions of interest from four more foreign governments—South Africa, New Zealand, Canada and the Netherlands—in its Navy P2V patrol bomber, already ordered by Great Britain and Australia. Lockheed will start deliveries of the latest model of the plane, the P2V-5, to the U. S. Navy this month. The new version of the twin-engine anti-submarine patrol bomber has a nose turret, considerably more radar and electronic gear than its predecessors, and larger wing tanks. The company also has a P2V-6 coming along on the production line, the -6 being a new version designed more for mine-laying than for anti-sub work.

**Olds to Build J-65:** Oldsmobile Division will assist its brother General Motors division, Buick, in the latter company's assignment to build the Wright J-65 Sapphire jet engine. Olds will build compressor and turbine units in a new 700,000-square-foot plant to be constructed near the company's forge plant in Lansing, Mich. Production is scheduled to get under way early next year.

**GE Drive for Ames Tunnel:** General Electric Co. has received an order from the National Advisory Committee for Aeronautics for a 180,000-horsepower wind tunnel drive, greatest power output ever concentrated on a single shaft. The drive, which will have a peak one-hour output of 216,000 horsepower, will consist of four 45,000-horsepower motors mounted in tandem. It will be used to power Ames Aeronautical Laboratory's new eight-foot supersonic wind tunnel, constructed under the unitary wind-tunnel plan. GE will also provide a companion 110,000-horsepower drive for Ames' 16-foot tunnel.

**First B-29's at Marietta:** Lockheed Aircraft Corp.'s Marietta, Ga., plant has received the first of hundreds of Boeing B-29's scheduled to undergo overhaul and modification. About 750 workers are already on hand at the Georgia Division plant and another 4,500 will be added as the program expands. The B-29 program is an interim job designed to ready the plant for later production of the Boeing B-47 jet bomber.

**Convair Buys Missile Tract:** Consolidated Vultee Aircraft Corp. has purchased a 71-acre tract of land at Pomona, Calif., for construction of a guided missiles plant. The plot was purchased from Fruehauf Trailer Co. Convair recently formed a new guided missiles division within the company.

**Employment Up 100,000:** Employment in aircraft and parts plants increased by 100,000 in the first six months after the start of the Korean war and should go up another 20% by July 1, according to the Labor Department's Bureau of Employment Security. Employment in the industry at the end of the six-month post-Korea period was 362,000.

**Three Shifts at Southington:** Pratt & Whitney Aircraft Division expects to have its newly reactivated Southington, Conn., plant fully equipped in another month. Operations are now running on a three-shift basis, although the second and third shifts are not at full strength.

**1,610 B-36 Suppliers:** An indication of the extent to which subcontracting is being used in the aircraft expansion program is the fact that Consolidated Vultee Aircraft Corp.'s Fort Worth Division has 1,610 subcontractors and suppliers now working on the B-36 bomber project, exclusive of a large number of companies which are supplying Government Furnished Property for the plane.

**Kaman Adds Space:** Kaman Aircraft Corp., expanding to meet a big backlog of Navy orders for helicopters, has leased 8,000 square feet of floor space in Hartford, Conn., to be used for engineering work. Company employment now totals 475 and is going up.

**Chevrolet J-35 Subcontracts:** Chevrolet Division of General Motors Corp., which has a mobilization assignment to build the Allison J-35-A-23 engine, will subcontract two-thirds of the component manufacture work it will do at its Engine Plant No. 1 at Tonawanda, N. Y.

—J. J. H.

## INDUSTRY PERSONNEL

James (Jock) Simpson, a veteran of 25 years with Douglas Aircraft and plant manager of its Long Beach Division since February, has been promoted to general manager to fill the vacancy created by the death of Fred Herman.

G. K. Peets has been promoted to factory manager in charge of all aircraft jet engine production for Packard Motor Car Co.; L. M. Capitani has been named chief inspector in charge of all car, marine-diesel and aircraft jet engine inspection operations, and John P. Meldrim has been promoted to production control manager for all three major Packard manufacturing divisions.

George H. Buchner has resigned as manager of Curtiss-Wright Corp.'s Propeller Division to return to California.

William H. Gunderson has been appointed as plant manager of Bell Aircraft's new Fort Worth facility, and James P. McNamara as manager of industrial relations. They were formerly manager of industrial relations and labor relations manager, respectively.

Raymond Fiolli, assistant to Wright Aeronautical Corp.'s works manager for the past several months, has been appointed superintendent of the new Wright plant at Garfield, N. J.

W. N. Stone has been promoted from chief of mechanical design to assistant chief engineer for Kaman Aircraft Corp. at Windsor Lock, Conn. R. D. Moses has been named senior engineer in charge of Kaman's New engineering offices in Hartford.

Lester M. Hitchcock, chief of Boeing Airplane Co.'s stress unit since 1942, has been appointed as staff engineer in charge of structures. He replaces George Snyder, reassigned to head a classified project. Howard W. Smith becomes chief of the stress unit.

Kenneth E. Fersch, a sales and installation engineer of Curtiss-Wright Corp.'s Propeller Division since 1945, has been appointed Dayton representative of the corporation, succeeding A. L. Ervin, Jr., promoted to the position of coordinator of military programs.

Morton L. Frank, former treasurer and assistant general manager of Bellanca Aircraft Corp., has been named vice president and comptroller of Majestic Metal Specialties Corp.'s Aircraft Division. A. S. Blumenthal, formerly of Bellanca and Fairchild Aircraft Division, was named vice president—manufacturing.

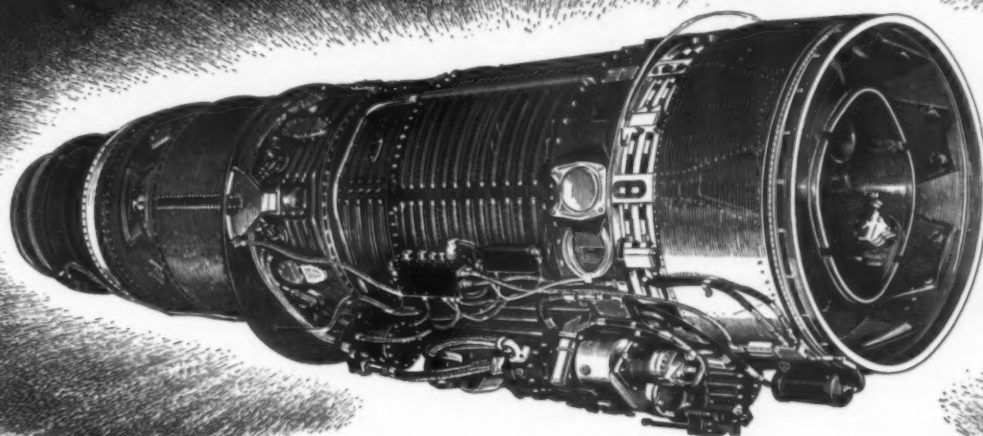
## MILITARY PERSONNEL

Lt. Col. S. E. Cleveland has been appointed Field Project Officer in charge of the Fairchild-Kaiser C-119 project, in addition to his duties at Fairchild Aircraft Division as AF plant representative.

Rear Adm. Samuel E. McCarty retired from active duty April 17 as Naval Aviation Supply Officer and Commanding Officer of the Naval Aviation Supply Depot at Philadelphia. He was relieved by Rear Adm. Ralph J. Arnold.



# Allison Wins Record U.S. Air Force Contract for Super-Jet Engines



## *New Turbo-Jet Leads with Greatly Increased Power and Fuel Economy*

ONCE more Allison makes a major contribution to America's air power—a new Super-Jet aircraft engine that excels in power and fuel economy any other jet engine ever released for production.

It's the new J35-A-23 developed in cooperation with the Air Materiel Command—a completely new design—yet retaining the same basic diameter of the famed J35 series. This new engine develops more power per square foot of frontal area than any other jet yet produced. Four of these new engines will be installed in the YB-47C Boeing Strato-Jet. They will produce more power than the six jet engines now used in previous models of the B-47 series.

This J35-A-23 now has been selected by the Air Force—in open competition—for a record-size production contract. Behind this latest award is Allison's unequaled experience in the design and production of more than 10,000 jet engines with total time in the air of over 700,000 hours.

This accents the length and breadth of Allison jet engine experience where it counts most—in the air. Many of these flight hours have been accumulated in Korea powering U. S. fighters for support of ground troops and keeping the skies clear of enemy opposition.

Production will continue at Allison on those combat-proved types of jet engines in addition to the new J35-A-23 Super-Jet and the new T40 Turbo-Prop engines.

The record production order for the new Allison engineered Super-Jet will be met through the combined facilities of Allison and the Chevrolet Motor Division which will build a substantial quantity of these Super-Jets.



*Builders of J35 Axial,  
J33 Centrifugal Flow  
Turbine Engines and  
T40 Turbo-Prop Engines*

# Allison

DIVISION GENERAL MOTORS CORPORATION  
INDIANAPOLIS, INDIANA

"DEFENSE IS EVERYBODY'S BUSINESS—AIR POWER IS EVERYBODY'S PROTECTION"

APRIL 30, 1951

15

# HIGH PRAISE FOR LOW TENSION



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No American enterprise sets for itself more exacting standards than the airlines of the nation. Their quest for betterment in service, safety and dependability is literally unceasing. The adoption of Bendix Low Tension Ignition by so many important airline operators is perhaps the finest tribute that could be paid to this new and revolutionary ignition system. Before Bendix low tension system was offered to the industry it was subjected to the most exhaustive tests under all operating conditions. The results in terms of efficiency, economy and all around dependability were so pronounced that we felt justified in announcing our new concept as "The most significant step forward in the history of aircraft ignition." That this introductory statement was no exaggeration has been amply demonstrated by the wide and ready acceptance of Bendix low tension systems by America's most critical buyers, the airline operators of the nation.

Write for an interesting booklet entitled  
"Current Aircraft Engine Ignition Systems."

**Bendix**

SCINTILLA MAGNETO DIVISION OF

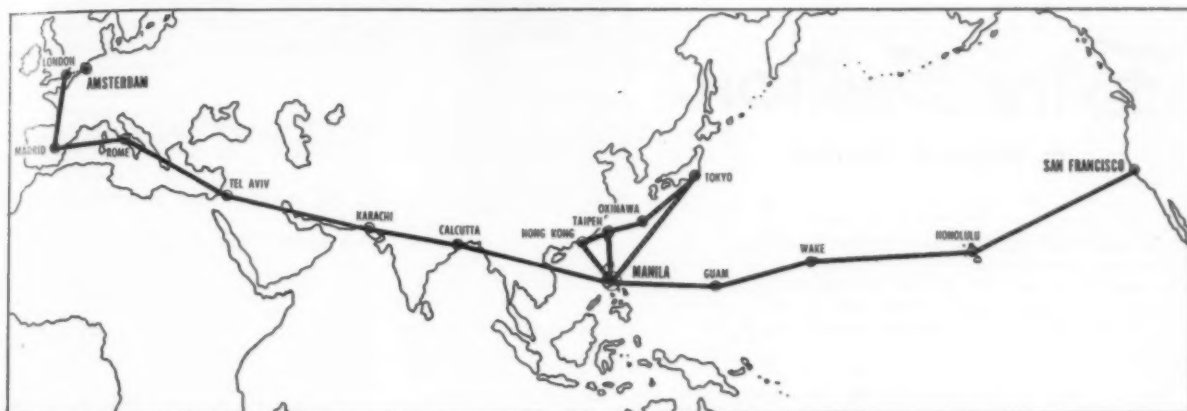
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

FACTORY BRANCH OFFICES:

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582 Market Street, San Francisco 4, California





PHILIPPINE AIR LINES' international route is provided major maintenance at San Francisco, Manila, Amsterdam.

# PAL's Progressive Maintenance

... Splitting Work Among Bases Keeps Planes In Service

By WAYNE W. PARRISH

**P**HILIPPINE Air Lines in Manila has undertaken two maintenance procedures believed to be unique in the airline field.

One is the institution of a three-point progressive maintenance system for the four DC-6's which operate two-thirds of the way around the world.

The other is the scheduling for two years in advance of all DC-3 maintenance to conform with the heavy rainy periods in the Philippine Islands when traffic is at low ebb.

Both programs were put into effect by Edward T. Bolton, executive head of the airline which has its headquarters in Manila. Bolton is a former TWA executive. Among his top aides are William Zadra, superintendent of international maintenance, and J. J. Cooper, chief inspector of maintenance. Both are former TWA maintenance supervisors with many years of airline experience.

## High Utilization

That the three-point progressive maintenance system is working for the DC-6's is evidenced by a utilization figure of over eight hours per day. Because of the long route—from San Francisco to Manila and from Manila to London—it was necessary to work out a plan whereby all necessary maintenance work could be performed during the short layovers at terminating stations.

This required the main load to be assumed by Manila, San Francisco and Amsterdam. PAL operates through Madrid to London, but fer-

ries its DC-6's to Amsterdam for maintenance at KLM's base. In San Francisco, United Air Lines handles the maintenance.

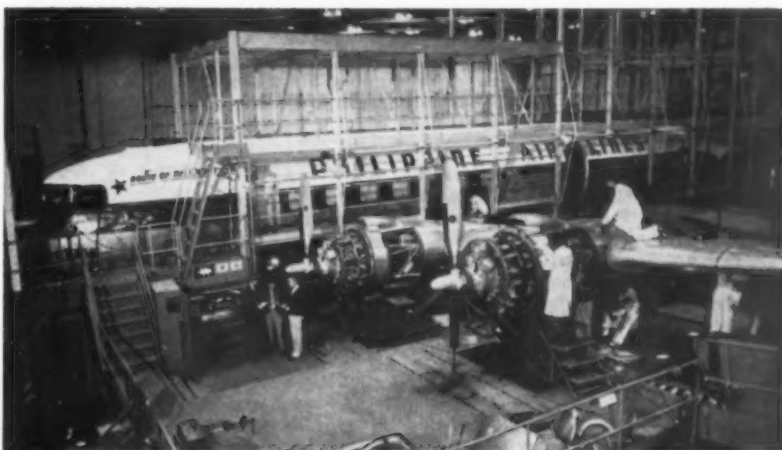
The only solution was to establish a progressive inspection and maintenance system. Major inspections and maintenance items are completed during the available ground time at Manila, Amsterdam and San Francisco.

For example, an operation No. 6 or 1,000-hour check may be due on one of the DC-6's. If this complicated work were to be completed at any one terminal, it would mean grounding the airplane for several days. To eliminate loss of plane utilization, certain parts of the work-schedule are assigned to and completed at the three stations during layovers.

So well is the program functioning that within 100 to 120 hours of flying time an entire progressive maintenance check is completed without delays in schedules at any station.

Actually the work is assigned to each station through a system of work sheets and coded cable messages forwarded to either Amsterdam or San Francisco, well in advance of the time when the check is due. This permits the advance planning necessary to the success of this type of a program. When the work is completed by these stations, signed work sheets are returned to Manila, certifying the work has been completed as instructed. These work sheets are gathered together and placed on file at Manila.

When the airplane is due for an-



PHILIPPINE AIR LINES DC-6 is shown here in the maintenance dock at United Air Lines' base in San Francisco where it is undergoing an 8,000-hour overhaul.



# Extra Section

By William D. Perreault



**BY THIS TIME** most of our readers should have had ample opportunity to give our special issue of April 16 a real going over. A natural reaction is to wonder where the details on current policies and future plans originated. The fact is that an issue of this type is not prepared by AMERICAN AVIATION's staff alone. The whole industry throws itself into the project and with good results.

Take airline direct operating costs, equipment deliveries, pilot, mechanic and engineering employment levels, utilization, on-time operation, etc. All of these data were submitted by the individual airlines on forms circulated by our staff. While the forms were, at best, time-consuming for the airlines, top operations and maintenance people worked with the public relations staffs to provide us with these details. When finally compiled it represented more than we could use in our single issue. Other parts of this information will be used as space permits.

What was doing in the air navigation and traffic control fields? CAA's public information staff joined with their engineers to compile lists of equipment installations under way, locations, time schedules and estimated dates of commissioning. At AMERICAN AVIATION these airport-by-airport, region-by-region summaries were worked into a composite chart showing all equipment now installed or proposed for each city in the program. This is the way we felt the average user would want the data.

Prototype aircraft testing is a program still very fluid. What was the exact status of this program? Staff members discussed the program with a number of executive and technical prototype committee members. Harold Hoekstra, head of the technical committee and secretary of the executive committee, gave a willing hand. In the end we had a current picture of the prototype testing program. But even as the issue was being printed another technical committee meeting decided to take the proposed feeder plane out of the program. Result was that last minute information was put in the news section of the magazine with a direct reference to the overall story inside.

Safety statistics are closely tied into total traffic volume. Even as the first pages of the special issue were being printed staff members were at CAB's docket section waiting for the final figures on the 1950 passenger traffic. CAB's Ben Ashmead worked with us in getting an accurate count on accidents and fatalities among scheduled and non-scheduled operators alike. At the Military Air Transport Service, Colonel Charles Brown, in charge of public information, had his crew digging out statistics on MATS safety record during the year 1950. Then these data were blended with that from other sources to form the final story.

Everyone knows the airlines are going to be subject to strict mobilization if the international situation worsens. By executive order the White House has established the machinery with which to assure tight control over all transport activities if this should be necessary. Yet no one is willing to discuss the nature of this mobilization. Responsible sources furnished background data on which to base a generalized story on what might be expected. Much of this might be concluded from the nature of the airlines' activities yet as presented it represented more than mere guesstimates without infringing on security matters.

Each of the many stories has its own development story behind it. The basic fact is that special issues of this type are the end result of much hard work by a highly specialized staff working in cooperation with, and in the confidence of, the industry.

nual relicensing, certified copies of the work completed are forwarded to the Philippine CAA along with the applicable forms for license renewals. The problem of establishing and enforcing a workable system of three-point progressive maintenance has involved many hours of hard work and study until it was made completely adaptable to United's and KLM's maintenance procedures.

## Work With Flight Control

No maintenance delays have been experienced at Manila within a period of more than 10 months.

In view of the fact that Manila is the hub of PAL operations, but located geographically too far from any source of supply, it was necessary to plan the various phases of the progressive maintenance schedule so that the terminating points, San Francisco and Amsterdam, were allotted their respective parts of the program.

Pratt & Whitney R-2800 overhauls, as well as highly specialized work such as cabin pressurization and electrical systems were allotted to the United base at San Francisco, and to KLM at Amsterdam. Both of these places are well equipped to perform major overhauls on engines and other component parts. The P&W R-1830 and R-2000 engines are being overhauled in the PAL shops at Manila. PAL has one DC-4 in addition to a fleet of 35 C-47's and C-53's.

## Rainy Season Slump

Maintaining the fleet of two-engined planes presented another challenging problem for PAL. A study of traffic and of the weather found a close correlation. During the periods of heavy rains—and there is a lot of rain annually in the Philippine Islands—traffic slumped year after year. Unlike the weather in the U. S., the rainy periods in the Islands come and go like clockwork. So PAL decided it would be smart to line up its maintenance with the rainy season and thus keep plane utilization high during the good traffic months.

In Bolton's office at Manila International Airport is a series of charts showing the ups and downs of traffic in relation to the rainy seasons, and also PAL's maintenance program for all of this year and for all of 1952. Each plane is now scheduled a long time ahead. In what is called the dry season (even then there is plenty of rain as a rule) PAL has almost all of its equipment in the air.

Scheduling maintenance to jibe with summer and winter seasons is no novelty, but PAL may be the first airline to work out a long-range planning in a tropical area where rains, not temperature, is the deciding factor on traffic.

# Airline Reliability, Safety Pace Growing Lift Capacity

WHILE the services of the scheduled airlines have multiplied many times, the reliability, safety and military potential of the airlines have kept in step with improvements noted on all fronts, according to Brig. Gen. Milton W. Arnold, vice president of the Air Transport Association. Speaking before the Wings Club in New York earlier this month, Arnold presented an interesting picture of these advances.

Since 1941 the seat-miles available in scheduled airline service has increased 1,158% and the available ton-miles by 1,152%. This reflects the increase in airline equipment from 342 small transports in 1941 to 1,144 aircraft today, including 520 four-engined aircraft. While this 235% increase in equipment is interesting, this will be upped even more in the next 18 months to 279%, swelled by new aircraft now on order and scheduled for delivery by the fall of 1952.

The airline growth represented was only possible by improvements in airline safety and regularity. These in turn were made possible by co-operative efforts of government and industry in providing new navigational and traffic control aids and by a concentrated effort on the part of the industry to use this equipment to the fullest.

## Airport Capacity Rises

The effect of these improvements is best indicated by specific examples. Arnold said that airport capacity at six of the leading commercial airports has been increased 2½ times since 1947. Using Washington, New York, Los Angeles, Miami, San Francisco and Chicago, six airports which handle 35% of scheduled airline traffic, as an example, the ATA executive showed that the hourly capacity of these airports in 1947 was 14 operations per hour, seven takeoffs and seven landings. This has now been increased to 34 operations per hour.

Improvements of this type have increased airline regularity. In 1947 the airlines operated 94.77% of their scheduled mileage. In 1949 this was increased to 98% and smaller improvements are still being made. In 1947 there was only one month in which more than 99% of the scheduled mileage was completed, in 1949 this occurred during six months.

At La Guardia Airport, one of the busiest terminals in the country, 87%

of the airline schedules during instrument flight conditions were delayed or cancelled during the 1946-47 winter season. A year later, in the 1947-48 winter season, only 21% of the flights under similar circumstances were delayed. The condition was virtually reversed with 79% of the flights on schedule.

Similarly in 1947, 4,582 flights were delayed an average of 33 minutes but by the following winter only 555 were delayed and the average delay reduced to 11 minutes.

Meanwhile, with lower operating limits and greater regularity, airline

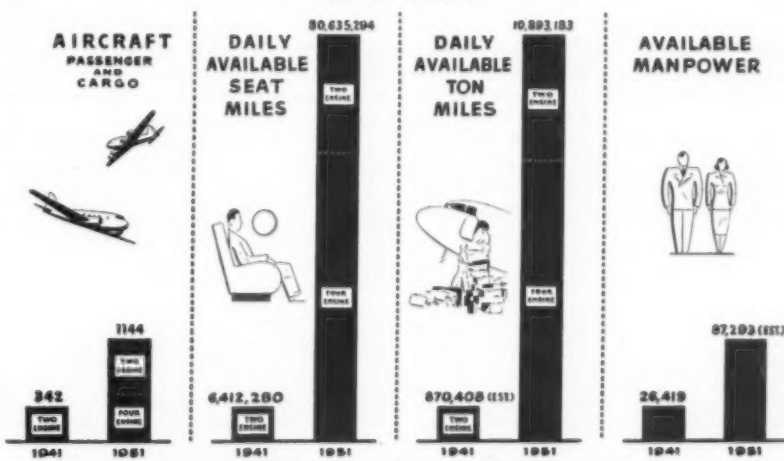
safety increased. Fatality rates have been on the downgrade ever since 1930. The 1930 rate was 15 passenger fatalities per 100 million passenger-miles; the 1950 rate was 1.2 fatalities. These are the facts which have built the airline industry to its present stature.

As a direct result of this stature, Arnold indicated, the airlines are now in a position to provide 88,635,294 seat-miles per day or an equivalent 870,408 ton-miles of cargo per day.

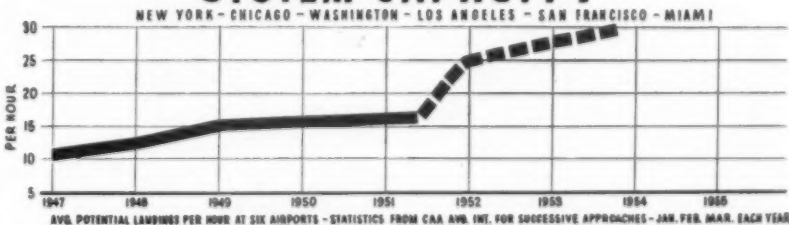
The fact that this is military potential, serving the civil population in times when the international situation will permit, is emphasized by the part played by the scheduled airline aircraft in the Pacific Airlift. Since the lift started, Arnold said, the scheduled airlines have provided an average of 22,185,900 ton-miles per month across the Pacific "and stand ready to provide more if additional tonnage is required."

## CIVIL AIRLIFT POTENTIAL

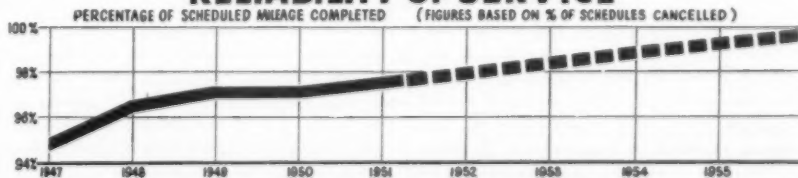
1941 vs 1951



## SYSTEM CAPACITY



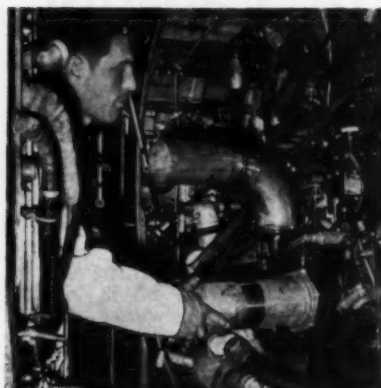
## RELIABILITY OF SERVICE



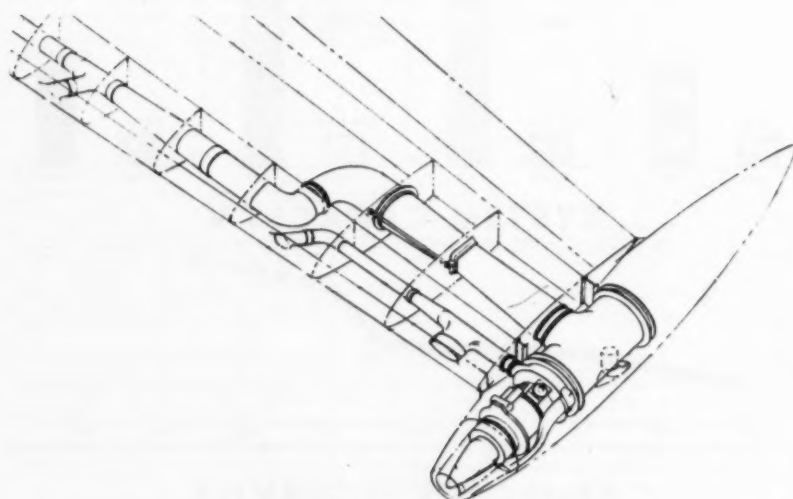
## Equipment in the News



**4-0-4 Seats**—Ninety days after initial order, Transport Equipment Co. of Burbank, Calif., was delivering the first of these custom-designed passenger seats for Trans World Airlines' Martin 4-0-4's to the manufacturer for installation. TWA ordered 820 of these seats. Of all-steel, chrome-moly tubular structure, the seats meet 9G load requirements, use foam-rubber cushions, feature adjustable footrests. TECO is circulating a bulletin on the new series. 2505 N. Ontario St., Burbank.



**Good Results**—Pan American World Airways is standardizing on the Stratos Model S60-5A cabin superchargers for its Lockheed Constellations and reports major improvements in service results over earlier units. Test experience indicates 1,000 hours or more service life can be expected where 165 hours were previously used. Output is up to 43 pounds of air per minute at sea level dropping to 37 pounds at 20,000 feet. This means cabin altitude of about 4,700 feet at 15,000 feet, 8,200 feet at 20,000 feet and sea level up to about 8,800 feet altitude.



**Wing-Tip Heater**—Combustion-type heaters mounted on the wing tips, in much the same fashion as tip fuel tanks, are featured in the new thermal deicing system for the Douglas YC-124B, the turboprop version of the C-124. There are five such heaters in the system, including one on each wing tip, providing a system capacity of 2,600,000 BTU's, 44% greater than the initial installation. Size of the 600,000 BTU heaters (about 15 inches in diameter and 37 inches long) and required distribution ducts dictated wing-tip positions and assured accessibility for maintenance.

## AMONG THE SUPPLIERS

Bendix Aviation Corp. has named Martin V. Kiebert, Jr., business manager of the company's research laboratories. He was formerly with Raymond Rosen Engineering Products, Inc., Kingston, N. Y., manufacturers of aircraft and industrial hydraulic devices, has appointed Vic N. Thacker production manager . . . Wolfe



Kiebert

Engineering Service Co., 8907 Wilshire Boulevard, Beverly Hills, Calif., has been formed by Col. Franklin C. Wolfe (USAF-Ret.). The new company will act as sales representative for several major aircraft manufacturers.

B. G. Corp. has elected William J. Carry, formerly assistant to the president, as a vice president, and Arthur Goldsmith as vice president and secretary . . . Turco Products, Inc., Los Angeles, Calif., has appointed Dan T. Buist national sales director, replacing Lou H. Moulton, retired.

Francis K. McCune has been appointed manager of engineering of General Electric's Large Apparatus Division in Schenectady, N. Y. He is succeeded as assistant general manager of GE's Nucleonics Department by William E. Johnson . . . Warner Division of Clinton Machine Co., Detroit, has named Carl L. Kalitta chief design engineer, and V. R. "Dick" Peiffer has been appointed director of production for the division.

Adel Division of General Metals Corp. has moved to new offices in the Hulman Building, 120 West Second St., Dayton, Ohio. Harry M. Crandell, formerly sales manager with Standard Products, Inc., has been named Kansas area representative of the division, with headquarters in Wichita.

Cutler-Hammer, Inc., Milwaukee, Wis., electrical manufacturer, has appointed O. P. Proudfoot as manager of the Cleveland district sales office . . . Control Systems Co., with offices at 445 West 23rd St., New York, has been established as a dealership in components for electronic control equipment, and will handle the standard components of Servomechanisms, Inc., Mineola, N. Y.

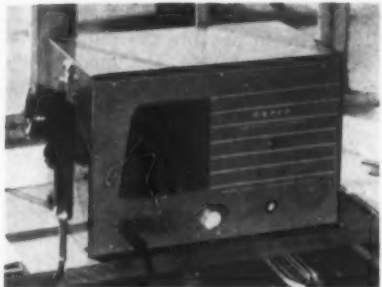
Footo Bros. Gear and Machine Corp., Chicago, Ill., has elected Gordon Murphy vice president in charge of manufacturing of the Precision Gear Division . . . Westinghouse Electric Corp. has appointed Henry R. Michel assistant to the vice president in charge of purchases and traffic. Michel will be assigned to the Washington, D. C. office. . . William F. Oswald and Frank T. Gamee have been appointed assistant manager of manufacturing and production manager, respectively, of General Electric's Control Division, Schenectady, N. Y.



# NEW PRODUCTS

## VHF Communication Station

A new ground VHF communication station for use by fixed-base operators has been introduced by National Aeronautical Corp. Both the transmitter and receiver in the new radio-telephone station are crystal controlled to assure maintenance of proper frequency. Enclosed in a metal cabinet with gray hammertone finish, the Narco unit is



12 inches wide, 7½ inches high and 8 inches deep. It contains eleven tubes plus rectifier and a loudspeaker. Operates from the standard 115-volt, 60-cycle AC power line only and uses 90 watts power. Transmitter has three watts output with 100% modulation from a standard T-17 military microphone. Price \$450.

When contacting National Aeronautical Corp., Wings Field, Ambler, Pa., please mention AMERICAN AVIATION.

## Fuel Boost Pump

A small, lightweight, impeller-type fuel pump designed for submerged installations in small aircraft and helicopters has been introduced by Adel Division of General Metals Corp. It is a continuous-duty pump with 40-gallon per-minute minimum output at a discharge pressure of 11 p.s.i. The model



2400 operates on 12 & 24 volts DC with a current draw of 2 & 4 amps. Weight is 2 pounds 7 ounces, ambient temperature range -65° to +160° F. Integral relief valve adjustable between 3 and 12 p.s.i. above pressure at rated flow.

When contacting Adel Division of General Metals Corp., 10775 Owen St., Burbank, Calif., please mention AMERICAN AVIATION.



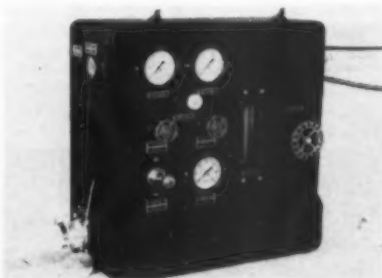
## Fire Fighter

A fire-fighting trailer with 200-gallon water supply and integral engine-driven pressure pump is being marketed by Preakness Engineering Co. to fill the gap between hand extinguishers and self-propelled trucks. Provided with 300 feet of hose, the Preakness trailer is arranged to provide a steady stream of water, fire fog or, with the use of a mechanical foam nozzle, to supply 350 gallons per minute of fire-fighting foam. The gasoline-driven pump is portable and can be used to such water from any supply to the business end of the hose. Accessories include nozzles, extension ladder, fire axe, portable extinguisher and suction strainer with optional equipment available.

When contacting Preakness Engineering Co., 972 Broad St., Newark 2, N. J., please mention AMERICAN AVIATION.

## Leakage Tester

A portable leakage tester measuring only 24 x 24 x 12 inches and weighing 100 pounds has been introduced by Sprague Engineering & Sales for testing and measuring leakage of pressurized cock-



pits of fighter-type aircraft. The Sprague unit has a capacity of 200 c.f.m. free air and is suitable for testing pressures from 2.5 to 10 p.s.i. For testing where plant air is not available it can be furnished with either gas-engine or electric-motor-driven, displacement-type blower as a complete package. Sprague models S-122, S-237 and others are available for the higher capacities used in testing larger aircraft including bombers and transports. All models include controls, instruments and accessories required for the testing operation.

When contacting Sprague Engineering & Sales, Gardena, Calif., please mention AMERICAN AVIATION.

## Oxygen System

A complete oxygen system, ready for installation in any twin-engined or single-engined aircraft to meet the need for supplementary oxygen in high-altitude flights is being marketed by Scott Aviation Corp. Known as the Scott "8500" fixed-type equipment, the system includes all components. A small manually adjustable regulator, servicing up to 50 outlets, is provided to vary oxygen flow with altitude. Claimed to be the lightest equipment in existence



per hour of oxygen carried, the Scott system costs about \$350 plus installation in a seven-place Twin-Beech. Installation takes about 15 hours. Existing low-pressure systems can be converted to the new system, salvaging many of the original parts.

When contacting Scott Aviation Corp., 207 Erie St., Lancaster, N. Y., ask for Bulletin No. 642 and please mention AMERICAN AVIATION.

## Check Valves

A new line of ultra-sensitive check valves for very-low pressure applications, such as in low-pressure pneumatic or gas systems, has been introduced by James-Pond-Clerk. The 119 series is normally manufactured in brass or aluminum but is available in other materials on special order. Cracking pressure is 4-8 inches water column. Valve seals before pressure across the poppet is equalized and will hold bubble tight against any back pressure within 0-100 pounds-per-square-inch range. Designed for a sensitive air-thermostat control system and proved in more than two



years' tests and service. Sealing is accomplished by a poppet with accurately machined knife-edge impressed into the surface of an "O" ring. Damage to the ring is prevented by limiting the impression of the knife-edge to a few thousandths of an inch-metal to metal contact between the poppet and the body carries the full pressure load.

When contacting James-Pond-Clerk, Pasadena, Calif., please mention AMERICAN AVIATION.

# Are Lower Airline Fares Coming?

... Reluctant Industry Awaits Answer From CAB

By WILLIAM V. HENZEN

**R**ELUCTANCE of the domestic airline industry may prove no barrier to a general passenger fare reduction. Two CAB cases with "chain-reaction" implications, heavy demand for air coach services, and three new Civil Aeronautics Board members could, according to current industry thinking, be deciding factors.

• **One case is the Transcontinental Coach Type Service Case** involving proposals of four non-scheduled lines for certificates to operate 4c per mile coast-to-coast services.

• **Other is the National Airlines Daylight Coach Case** in which National seeks approval of a low-fare daylight operation between New York and Miami with Douglas DC-6 aircraft.

There are indications that CAB leans toward approval of the National proposal and the five-man Board, hearing oral argument in the Transcontinental Coach Case recently, appeared sympathetic to non-sked arguments that scheduled lines are not meeting coach demands.

## Flights Booked Ahead

One charge was made that American Airlines' DC-6 coach flights, with one schedule a day, are booked three weeks in advance. TWA's daily Constellation coach flight between New York, Chicago, and Los Angeles operate at consistently high load factors.

Understandably, the scheduled industry as a whole does not favor cutting fares at this time when first-class flights are operating at or near capacity and when inflationary costs are still rising. In fact, serious consideration was given by some lines to elimination of the half-fare family plan and by others to cutting out the 5% round-trip discount.

But added competition on transcontinental routes, if certificated by the Board, would force American and TWA either to increase available coach capacity by addition of more DC-6's and Constellations, or to cut fares generally.

## Trend Could Spread

First-class fares of scheduled lines are now based on 6.1c per mile. Scheduled coach fares range generally from 4.5c to 5c a mile.

There is strong feeling that an available mass travel market plus

added competition, or even the threat of added competition would precipitate an all-out effort by American along low-fare lines. If American moves in that direction, an industry-wide move would not be unlikely.

CAB's concern was expressed by former Chairman D. W. Rentzel who reacted to non-sked charges against the scheduled lines and directed American to submit current records of coach loads and any plans the company may have for expanding capacity of coach flights.

Before conceding that inadequacy of coach capacity is an airline fault, industry people point to the active part CAB played in developing scheduled coach services and much of the responsibility for the limited amount of such services available today and the level of fares is the Board's.

## CAB's Views on Fares

However, only two of the five members largely responsible for present CAB coach policy are still on the Board, an indication that its overall thinking could possibly have changed in the past few months.

In fact, in a fairly recent decision it said: "It has not been fear but fare that has kept the masses of the people out of the air, thereby pre-

venting this new transportation from being brought within the reach of the many people of limited means. Our aim and that of the carriers must always be to provide the public with the benefits of safe and modern air transportation at the lowest rates and fares that can be economically provided."

Further, it said: "It behooves us, in considering the structure of a sound airline industry, to remember that a relatively good earning position at a given time may suggest the need for giving serious consideration to the possibilities of reducing transportation rates and fares rather than the need for expanding competitive services."

Last year was the most profitable year in airline history. Many airlines are doing even better in 1951. Coach business in 1950, though on a limited scale, passed the \$40 million mark. Except for American's and TWA's transcontinental coach flights, practically all others were, by virtue of CAB policy, conducted at off-hours.

It is this latter restriction which National in its Daylight Coach Case seeks to eliminate. Both National and Eastern now operate off-hour DC-4 coach services over the New York-Miami route. National feels



**Caribbean Touch**—Trans-Canada Air Lines' new Cleveland ticket office departs from the usual conservative Canadian motif in favor of a design in keeping with TCA's expansion of Caribbean service, including a display of tropical flowers. Counter combines standard ticketing unit with itinerary-type desk.

it could operate profitably a DC-6 during the daytime.

### One-Vote Denial

Last August, a similar proposal was turned down by CAB by a narrow one-vote margin—result of a last-minute switch by Member Josh Lee. Informed sources say now that the "new" CAB feels differently and may approve the operation.

But five airlines have protested and claim it will only be a matter of time until the industry would be forced to cut fares generally, if CAB grants National's request.

In its plea to the Board, Delta Air Lines summed it up this way: "What is actually involved is a question of whether the Board is going to permit coach fares of this nature between virtually all north-south markets. This is so because if National's fares are approved, Eastern would be compelled to install similar fares not only in the New York-Florida market but also in the Detroit-Florida, the Chicago-Florida and other markets . . . thereby requiring installation of similar fares by Delta in markets in which it operates competitively with Eastern."

"In fact the chain reaction . . . would extend across a great portion of the United States . . . and it is inescapable that the enabling of daylight coach fares with deluxe equipment can only result in an over-all fare reduction through the industry."

National, however, points to transcontinental coach operations of American and TWA which are not restricted to off-hours and which have not yet spread to other sections. For experimental purposes, carrier says the New York-Miami route is much more remote than the transcontinental routes.

Nevertheless, National reasons that if similar coach fares on other routes are filed and found to be reasonable by CAB "then there is no reason why they should not be put into effect."

### CAB CALENDAR

Apr. 30—(Docket 4855) Hearing in "AREA" Aerovias Ecuatorianas, C. A., Ecuador-U. S. Foreign Permit Case. 10 a. m., Room 5040, Commerce Bldg., Washington. Examiner Curtis C. Henderson. Postponed from March 27.

May 1—(Docket 4834) Hearing in KLM Royal Dutch Airlines trans-Atlantic Permit Amendment Case (add Boston and extend route from New York to Chicago). Tentative. Examiner Thomas L. Wrenn.

May 15—(Docket 4656) Prehearing conference in Houston-Pittsburgh-New York interchange Case, (Trans World Airlines/Chicago and Southern Air Lines). 10 a. m., Room 5040, Commerce Building, Washington, D. C. Examiner William F. Cusick. Postponed from March 19.

June 4—(Dockets 2849 et al. & 3663) Hearing in Big Four Mail Rate Proceeding and Efficiency Investigation. Tentative. Examiner Edward T. Stodola. Postponed from April 2.

# Over the Counter

## Sales Promotion

SOME excellent pieces of promotion have come to our attention recently. Here are a few of them:

**Emery Air Freight:** This company an air freight forwarder, ran a magazine ad that rates tops for cleverness and effectiveness. The page-length ad, two columns wide, was completely blank except for 12 small words in the middle: "This advertiser likes a lot of white space—and he got it!" Down in the right-hand corner in small type is the rest of the story: "He got it by missing the closing date for this space. He's since found out that Emery Air Freight could have delivered his plates in time." A real eye-catcher.

**Philippine Air Lines:** A novel idea that should sell space is being used by PAL. The company found that it's difficult to sell a passenger round-trip transportation from, for example, Washington, D. C., to Manila. Price is \$1,562.40, a lot of money. It might be easier, PAL reasoned, to sell him on taking care of his business in Manila and then going all the way around the world, even though the cost was a little higher (\$1,700). So, new company posters and ads feature the slogan: "Go and Return on a One-Way Ticket," and note that "for many trips, round-the-world air fares are only slightly higher than round-trip fares." Ads, prepared by Walther-Boland Associates, San Francisco, will soon appear in travel magazines. A good example of merchandising.

**American Airlines:** Herb Ford, AA's Washington sales manager, who has had many sales promotion ideas, comes up with a new one. It's a folder describing in clear and readable form the 14 AA routings west from Washington. Each routing is boxed and numbered, and each one features a verse. Example: "The twelve-thirty flight is a prize flight to Dallas; Want booking? That's easy—just call up and tallas." Corny but effective, and Herb Ford gets another star for a good idea.

**Capital Airlines:** A colorful direct-mail piece, "An Alert Nation Moves Fast," selling air travel in connection with mobilization program. Attached to last page is a local quick reference timetable—an excellent feature.

**Pan American World Airways:** PAA is going to be blessed by cargo shippers—it's come out with a pocket-size "weight converter." With a flick of the finger, you can convert kilograms to pounds; turn it over and you convert in the opposite direction. Useful gadget and a producer of goodwill.

**Central Airlines:** This local service line wanted to promote its services among doctors in Texas, Oklahoma and Kansas. Realizing that doctors are busy people and apt to toss promotional material into the wastebasket, Bob England, Central's new sales director, figured out a method of getting them to read it. First, he talked a chain drug company into furnishing some envelopes. Second, he secured some celluloid medical capsules. Third, he stuffed the Central sales message in the capsules, which were then mailed out in the envelopes. It's caught the attention of doctors. One word of warning, Bob—our capsule was smashed upon arrival.

Elsewhere in the promotion field, TWA is now giving each boy passenger a pair of Junior Pilots wings and an identification card signed by the pilot, certifying that he's a member of the Junior Pilots' Association. Each girl receives the half-wing insignia of the TWA hostess and membership card in the Junior Hostess Association. Also, department stores throughout the country are now carrying models of TWA pilot and hostess uniforms, styled for children and retailing for \$5.95.

## Traffic and Sales Offices

**BRITISH Overseas Airways Corp.** has transferred New York headquarters from 630 Fifth Ave. to 342 Madison Ave., where reservations, sales, public relations, personnel, administration and commercial planning and traffic departments are in one building . . . BOAC has opened a ticket office in Statler Hotel, Boston, with Eric Wheatley as manager . . . Swissair now has Chicago office at 37 S. Wabash and San Francisco office at 661 Market St.

## Traffic and Services

**UNITED Air Lines** on Apr. 29 added 48 flights, and company's available DC-6 seat-miles exceed last July's high by 36% . . . **Pan American World Airways** on May 1 increases New York-Paris service from five to seven round-trips weekly and on June 1 adds a second weekly flight New York-Boston-Nice-Rome . . . **Air France** this month added second weekly Parisian non-stop New York-Paris flight. One schedule previously operated had load factor of over 90%, AF says . . . **Pan American** and **TWA** have now shifted all international operations from LaGuardia to New York International Airport . . .

Here's a partial line-up of what foreign airlines will operate on the Atlantic this summer: **KLM Royal Dutch Airlines**, now running seven round-trip Connie flights weekly, increasing to nine May 27 and 10 later; **Scandinavian Airlines System**, now seven weekly, increasing to nine May 26 and to eleven June 2 (including one direct flight weekly to Stavanger, Norway); **SABENA Belgian Airlines**, now four, increasing to five May 20; **Italian Airlines (LAI)**, now one, with second to be added in May.

ERIC BRAMLEY



## Feeders Rank Well With Trunks of '38

**T**HE TRAFFIC load record of the nation's local service airlines in 1950 looks weak in comparison with the record of the domestic trunkline carriers for the same year, but the short-line group compared favorably with the trunklines at a comparable period of their history.

A comparison of passenger load factors does not tell the full story. The local service group during last year operated 611,158,000 available seat miles and flew 200,939,000 revenue passenger miles for an overall average passenger load factor of 32.87%. The trunkline group had an average load factor of 62.67% for the year, or almost double that of the feeders.

However, as of last year most of the domestic trunkline carriers had the benefit of from 15 to 20 years of operating experience and traffic potential development, while most of the local service airlines had been operating for only about three years.

Going back to when most of the trunklines were only a few years old, say to 1938, the year the Civil Aeronautics Act was passed, the figures tell a different story.

### Difference in Equipment

The average passenger load factor for the trunks in that year was close to 45%, which was considerably better than the local service lines' 32.87% average for last year. However, this may not be the fairest type of comparison, inasmuch as trunklines in 1938 were still operating a good many transports of 5- to 12-passenger capacity, whereas feeders last year were flying over 100 DC-3's of 21- to 23-passenger capacity and only a dozen or so smaller ships.

To even out these differences in types of equipment operated, a comparison was made of the average passenger load (number of persons) per revenue plane mile flown. This figure is obtained by dividing the number of plane-miles flown into the number of passenger-miles flown, and when this yardstick is applied to the 1938 operations of the 13 leading trunklines and the 1950 operations of the 13 leading local service carriers, it is noted that the latter generally show up better (see table).

Pioneer Air Lines, with an average passenger load of 9.80 persons and Southwest Airways with an average of 9.71 persons per revenue mile operated, were both ahead of American Airlines, which was the leading truck carrier in 1938, and

## Local Carriers of Today Rank Well With Trunks of 1938

Rank	Local Service Carriers 1950	Average Passenger Load	Trunk Carriers 1938	Average Passenger Load
1.	Pioneer .....	9.80	American .....	9.22
2.	Southwest .....	9.71	Eastern .....	8.63
3.	West Coast .....	7.83	Colonial .....	8.22
4.	Robinson .....	7.54	TWA .....	7.37
5.	Empire .....	7.27	United .....	7.03
6.	Piedmont .....	7.13	Pennsylvania-Central ..	5.53
7.	All American .....	6.89	Braniff .....	5.02
8.	Lake Central .....	6.54	Chicago & Southern ..	4.80
9.	Bonanza .....	5.42	Western .....	4.57
10.	Trans-Texas .....	4.86	Northwest .....	4.36
11.	Frontier .....	4.72	Delta .....	4.26
12.	Wisconsin Central .....	3.79	Northeast .....	3.42
13.	Southern .....	3.63	Mid-Continent .....	3.11

which had an average passenger load of 9.22 in the latter year.

By this comparison, the local service lines in 1950 were doing a good job of generating traffic.

### 1950 AIRLINE SALARIES

Following are 1950 airline salaries as reported to CAB:

#### Trunk Carriers

##### Chicago and Southern Air Lines

Carleton Putnam, chm. of bd., \$23,999.98 salary (down \$2,000.02), \$200 bonus and indirect compensation; Sidney A. Stewart, pres. and dir., \$32,000 (up \$2,000), \$200 bonus and indir.; Junius H. Cooper, v.p. finance and dir., \$18,000, \$200 bonus and indir.; William T. Arthur, v.p. oper., \$17,500 (up \$6,221.02); Richard S. Maurer, v.p. secy. and gen. counsel, \$13,666.67 (up \$1,000); Thomas F. Hambleton, treas., \$7,483.33 (up \$483.33); Robert S. Scrivener, asst. treas., \$5,160; Erma Murray, asst. secy., \$4,680 (up \$90.15).

##### Colonial Airlines

Sigmund Janas, Sr., pres. and dir., \$18,000 salary (down \$6,500), \$6,500 bonus and indirect compensation and directors fees; Edward S. Ridley, v.p., \$11,999.88 (up \$999.96); James F. Gormley, treas., \$11,999.88 (up \$583.29); Warren S. Cooper, secy., \$8,625 (up \$675); B. T. Dykes, v.p. oper. and dir., \$15,000; Sigmund Janas, Jr., v.p. traf., \$11,999.88 (up \$999.96); A. M. Hudson, v.p., \$11,999.88 (up \$999.96); Stanley Meyer, dir., \$7,500, \$500 bonus and indir. and directors fees.

##### Continental Air Lines

Robert F. Six, pres. and dir., \$32,750 (up \$2,750); C. C. West, Jr., v.p. and dir., \$16,375 (up \$1,375); O. R. Haueter, v.p. oper., \$16,375 (up \$1,375); Joseph A. Uhl, v.p., secy. and treas., \$14,191.82 (up \$1,275.08); Dorothy R. Peri, asst. secy., \$4,275.08.

##### Hawaiian Airlines

Stanley C. Kennedy, pres. and dir., \$27,526.81 salary (up \$26.81), \$260 directors fees; Alexander Smith, v.p. and secy., (resigned December 31, 1950), \$15,-

275.82 salary (up \$1,275.82), \$20 directors fees; Ford Studebaker, v.p., \$14,109.21 (up \$109.21); David Watson, treas., \$11,150.89 (up \$150.89); Brian Cooke, asst. treas., \$7,240.96.

#### Mid-Continent Airlines

J. W. Miller, pres. and dir., \$26,766.56 (up \$1,766.72), \$2,778.98 bonus and indir.; J. C. Collins, v.p., secy. and dir., \$9,633.20 (down \$366.64), \$1,048.09 bonus and indir.; J. A. Cunningham, v.p. oper., \$14,100 (up \$1,100), \$793.02 bonus and indir.; H. W. Coburn, v.p. traf. and sales, \$12,099.84 (up \$1,100), \$1,010.99 bonus and indir.; W. L. Walker, treas., \$9,900 (up \$900), \$487.14 bonus and indir.; C. H. Calhoun, v.p. eng. and maint., \$12,099.84 (up \$1,100), \$629.39 bonus and indir.; W. D. King, asst. treas., \$6,350 (up \$550), \$206.77 bonus and indir.; P. H. Carr, asst. secy., \$5,450 (up \$550), \$293.38 bonus and indir.

#### Northeast Airlines

George E. Gardner, pres. and dir., \$18,000 (up \$100), \$5,000 bonus and indir. compensation; A. A. Lane, v.p. oper., \$14,400; Robert L. Turner, v.p. sales, \$8,000; Hamilton Heard, treas., \$12,000; R. H. Herrnstein, asst. treas., \$7,500 (up \$300).

#### Western Air Lines

T. C. Drinkwater, pres. and dir., \$35,000 salary (up \$1,081), \$200 bonus and indir.; S. R. Shatto, v.p. maint. and eng. and dir., \$17,749.92 (up \$2,749.92), \$200 bonus and indir.; M. W. Landes, v.p. service, \$12,750 (\$2,749.92), \$150 bonus and indir.; A. F. Kelly, v.p. sales, \$12,750 (up \$11,063.32); P. E. Sullivan, v.p. and secy., \$12,750 (up \$2,550); D. P. Rends, asst. secy., \$10,750 (up \$2,650); J. J. Taylor, treas., \$12,750 (up \$2,849.94); R. H. Purcell, comptroller and asst. treas., \$8,550 (up \$900).

#### Local Service Carriers

##### All American Airways

R. M. Love, pres. and dir., \$15,000 salary; C. W. Wendt, v.p., treas. and dir., \$10,000; H. R. Basley, v.p. and dir., \$10,000; C. H. McIntosh, v.p. oper., \$10,000; D. L. Miller, v.p. sales, \$7,500; E. K. Arnold, secy., \$5,300; H. G. Kenyon, asst. secy., \$5,700; W. J. Short, asst. treas., \$6,600.

### Bonanza Air Lines

Edmund Converse, pres., \$12,000 salary (up \$6,000); Florence J. Murphy, secy. and treas., \$6,150 (up \$2,741.06); Earl Jochin, asst. treas., \$5,550; M. E. Cole, v.p. traffic, \$8,100.

### Challenger Airlines

Donald A. Duff, pres., \$5,499.98 salary (down \$9,583.28); H. Lynn Graham, treas. (terminated February 1, 1950—replaced by C. A. Myhre, \$1,650 (down \$5,275); C. A. Myhre, treas., \$1,200; L. W. Linville, secy., \$1,750 (down \$1,375).

### Monarch Air Lines

R. M. Wilson, exec. v.p. and dir., \$2,333.34 (down \$5,666.66); D. T. Myers, asst. secy., \$975 (down \$1,225); C. A. Myhre, treas., \$2,022.34 (down \$5,166.66). NOTE: Figures for Challenger and Monarch are through May 31, 1950, at which time companies merged and began operating under name of Frontier Airlines.

### Mid-West Airlines

F. C. Anderson, pres., \$8,400 salary; Leo P. Brennan, dir., no salary (down \$3,150), \$225 bonus and indir.

### Ozark Air Lines

Laddie Hamilton, pres. and dir., \$5,000 salary, \$200 bonus and indir.; J. B. Carl, v.p. and dir., \$4,000, \$200 bonus and indir.; F. W. Jones, treas. and dir., \$3,000, \$200 bonus and indir.; O. L. Parks, dir., \$1,900, \$80 bonus and indir.; G. O. Shaver, dir., \$1,900, \$80 bonus and indir.; C. A. Bachman, dir., \$1,040, \$80 bonus and indir. NOTE: Began operations September 26, 1950.

### Piedmont Airlines

T. H. Davis, pres., treas. and dir., \$12,250 salary (up \$250); R. D. Hager, v.p., asst. to pres. and dir., \$10,083.32 (up \$83.32); R. S. Northington, v.p. and dir., \$5,400 (up \$600); M. F. Fare, secy. and dir., \$5,275 (up \$475).

### Pioneer Air Lines

Robert J. Smith, pres. and dir., \$18,125 salary (up \$6,125); Harold B. Seifert, v.p. and dir., \$10,800 (up \$600); H. L. Lawrence, v.p. and dir., \$9,000 (up \$1,500); Eugene W. Bailey, secy.-treas. and dir., \$9,600 (up \$1,200); W. F. Long, chm. of bd., \$5,000 (up \$5,000).

NOTE: Salary shown for Robert J. Smith includes \$9,375 paid him as severance pay due to leave of absence granted him by board of directors in order that he might serve as Vice Chairman of NSRB.

### Robinson Airlines

Robert E. Peach, exec. v.p., \$10,166.68 salary (up \$166.68); John R. Carver, v.p. and secy., \$7,266.66 (down \$1,173.34).

### Southern Airways

Frank W. Hulse, pres. and dir., \$8,899.68 salary (up \$2,076.78); Tom D. Eve, v.p., \$9,072.96 (up \$5,020.92); George F. Estey, secy. and treas., \$3,723.55 (up \$3,641.90); F. L. McLeod, asst. treas., \$4,905.83.

### Wisconsin Central Airlines

Francis M. Higgins, pres., \$12,000 (up \$417.98); Harold N. Carr, exec. v.p., \$10,500 (up \$901.88); Arthur E. Schwandt, secy.-treas., \$7,200 (up \$280.83).

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# U. S. Feeder Airline Revenues & Expenses, Oct.-Dec., 1950

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
All American	\$ 715,760	\$ 319,968	\$ 374,339	\$ 16,514	\$ . . .	\$ 1,230	\$ 1,308	\$ 821,745	\$ 397,669	\$ 424,077	\$ -105,986
Bonanza	200,720	71,758	122,416	202	1,175	494	4,478	252,730	116,056	136,673	-52,009
Central	218,521	30,387	187,510	. . .	. . .	159	360	261,551	121,391	140,160	-43,030
Empire	253,554	92,871	149,652	1,887	. . .	496	6,084	270,300	149,669	120,630	-16,746
Frontier	902,082	251,966	619,602	8,523	12,609	1,255	7,358	965,261	462,018	503,243	-62,179
Lake Central	395,554	48,603	124,312	10,745	. . .	191	211,363	362,107	224,938	137,169	33,447
MCA*	194,289	100,990	84,148	2,763	3,411	492	2,180	196,794	71,626	125,168	-2,505
Mid-West	170,988	10,694	160,213	. . .	. . .	53	36	150,817	77,722	73,095	20,171
Osark**	156,462	33,675	119,175	2,350	. . .	149	. . .	295,385	144,843	150,542	-138,923
Piedmont	808,532	435,652	341,470	10,981	10,655	3,994	3,900	729,041	405,093	323,948	79,491
Pioneer	927,807	480,580	296,532	4,518	11,951	3,510	125,324	820,515	409,276	411,239	107,292
Robinson	269,416	164,340	87,795	6,153	4,186	437	5,712	336,247	170,134	166,114	-66,832
Southern	680,490	133,647	535,079	5,265	. . .	581	2,737	474,787	251,224	223,563	205,703
Southwest	554,673	296,619	225,242	4,759	10,150	967	10,370	486,215	192,258	293,957	68,457
Trans-Texas	645,520	214,899	417,281	2,865	5,778	1,129	2,258	649,918	295,458	354,460	-4,398
West Coast	305,352	108,059	186,331	1,119	2,731	358	3,886	264,341	109,579	154,762	41,011
Wiggins	76,297	5,043	71,239	. . .	. . .	15	. . .	79,938	36,914	43,024	-3,641
Wls. Central	578,687	111,593	460,217	4,993	. . .	665	. . .	378,218	166,654	211,563	200,469
TOTALS	8,055,704	2,911,004	4,562,553	83,637	62,046	16,075	387,354	7,795,910	3,802,522	3,993,387	299,792
HAS	92,581	. . . .	92,555	. . .	Helicopter Mail Service	. . .	. . .	79,053	42,604	36,448	13,528
Los Angeles	103,192	. . . .	98,656	. . .	. . .	. . .	. . .	87,057	52,949	34,108	16,135
September	3,475	906	2,476	. . .	Osark Air Lines**	3	. . .	9,951	5,875	4,075	-6,476
October	31,888	9,520	21,211	. . .	. . .	44	. . .	71,573	34,526	37,047	-39,573
November	60,553	11,907	47,837	750	. . .	60	. . .	102,581	52,250	50,331	-42,027

\* Figures cover feeder segment awarded MFA by CAB in the Parks Air Lines Investigation Case.  
 \*\* Began operations September 26, 1950.

## U. S. All-Cargo Airline Balance Sheet Data as of Dec. 31, 1950

AIRLINES	TOTAL ASSETS	CURRENT ASSETS	INVESTMENTS & SPECIAL FUNDS	OPERATING PROP. & EQUIPMENT	DEFERRED CHARGES	CURRENT LIABILITIES	LONG-TERM DEBT	DEFERRED CREDITS	OPERATING RESERVES	CAPITAL STOCK	SURPLUS
Air News	\$ 207,696	\$ 65,010	. . . .	\$ 132,364	\$ 10,322	\$ 38,617	\$ 25,000	. . . .	. . . .	\$ 100,000	\$ 44,079
Flying Tiger	4,838,306	3,160,278	59,658	1,472,246	146,124	1,916,618	. . . .	. . . .	278,896	761,227	1,381,565
Slick	3,521,877	2,388,234	313,590	639,112	175,941	1,436,319	1,505,780	44,755	. . . .	1,821,520	-1,286,497
U.S. Airlines	357,597	209,478	. . . .	57,791	90,329	290,808	. . . .	. . . .	41,823	1,500,000	-1,475,033
TOTALS	8,925,476	5,823,000	378,248	2,301,513	422,716	3,682,362	1,530,780	44,755	320,719	4,182,747	-835,886

## U. S. Feeder Airline Balance Sheet Data as of Dec. 31, 1950

AIRLINES	TOTAL ASSETS	CURRENT ASSETS	INVESTMENTS & SPECIAL FUNDS	OPERATING PROP. & EQUIPMENT	DEFERRED CHARGES	CURRENT LIABILITIES	LONG-TERM DEBT	DEFERRED CREDITS	OPERATING RESERVES	CAPITAL STOCK	SURPLUS
All American	\$ 2,197,224	\$ 369,133	\$ 210,895	\$ 1,302,112	\$ 315,084	\$ 957,859	. . . .	\$ 17,907	\$ 59,480	\$ 513,660	\$ 668,318
Bonanza	515,080	122,616	. . . .	296,005	92,508	224,051	70,000	2,335	. . . .	547,009	-330,432
Central	610,644	278,385	. . . .	238,007	93,752	264,288	262,260	976	. . . .	129,000	-45,879
Empire	434,525	165,528	36,402	157,704	74,890	109,327	. . . .	3,714	. . . .	337,900	-16,416
Frontier*	1,660,803	730,929	9,148	687,104	264,812	762,527	290,087	8,667	. . . .	823,086	-223,564
Lake Cent.**	559,157	194,365	721	290,937	73,015	326,075	. . . .	1,058	29,106	219,636	-16,717
Mid-West	147,204	71,062	. . . .	36,861	36,269	61,005	74,534	20,243	. . . .	4,250	-12,828
Osark***	971,685	280,894	. . . .	547,577	140,438	382,001	. . . .	1,079	. . . .	749,498	-160,893
Piedmont	1,782,030	1,017,525	130,080	545,939	38,487	458,735	. . . .	26,429	118,799	1,086,910	90,977
Pioneer	1,393,137	855,612	731	405,533	131,261	363,622	. . . .	29,446	. . . .	90,000	910,969
Robinson	869,459	213,059	7,504	582,017	66,878	821,140	513,717	3,470	11,042	192,596	672,507
Southern	1,067,587	373,530	511	504,177	158,885	570,552	146,290	4,977	. . . .	600,000	-254,232
Southwest	1,503,588	1,002,074	4,493	369,940	127,080	369,926	. . . .	13,609	49,100	325,305	745,147
Trans-Texas	1,002,702	572,966	68,146	311,564	50,027	332,668	. . . .	4,041	. . . .	900,000	-234,008
West Coast	1,021,848	706,505	220	224,398	90,726	149,644	75,000	5,814	14,933	167,371	589,086
Wiggins	182,573	34,158	30,472	44,338	73,604	26,344	. . . .	. . . .	5,494	77,868	72,867
Wls. Central	845,696	454,721	10	363,952	27,013	344,882	53,500	4,507	. . . .	155,000	287,807
TOTALS	16,764,942	7,443,562	549,333	6,908,165	1,854,729	6,524,646	1,485,388	148,322	287,954	6,939,589	2,721,809
HAS	456,197	148,410	10	169,563	Helicopter Mail Service	51,517	. . . .	. . . .	. . . .	401,100	3,580
Los Angeles	276,083	114,851	10,010	104,923	78,326	44,911	. . . .	210	. . . .	294,000	-35,602

\* Formerly Challenger Airlines and Monarch Air Lines.  
 \*\* Formerly Turner Airlines.

Companies merged and are now operating under name of Frontier Airlines, Inc.  
 \*\*\* Began operations September 26, 1950.



ADMINISTRATIVE

**Harry J. Volk**, of Los Angeles, western vice president of Prudential Insurance Co. of America, and **Robert E. Driscoll**, chairman of the board, First National Bank of Black Hills, Rapid City, S. D., have been elected directors of Western Air Lines.

**James A. Jackson**, New York investment banker, was elected to the board of directors of American Airlines. He formerly was a director of American Overseas.

**F. William Zelcer** has resigned as a director of Metropolitan Air Commuting, Inc., of New York, to devote full time to his position as president of Chicago Autograph Corp.

**Ronald Duckworth**, former controller of Trans World Airlines' European region and a member of TWA's treasury and accounting departments since 1931, has been elected assistant treasurer.

**A. H. Keener**, west coast advertising man, has been appointed advertising and public relations manager for California Central Airlines.

**Thomas E. Koop**, Northwest Airlines' personnel assistant and military service coordinator, has been appointed Orient personnel manager with headquarters in Tokyo. He replaces **R. C. Ambuhl**, reassigned to NWA's general offices in Twin Cities.

**Shelby Kritzer**, Amarillo newspaper executive, has been made a director of Pioneer Air Lines. He succeeds **Gene Howe**, of Amarillo, who asked to retire.

OPERATIONS-MAINTENANCE

**L. A. (Dick) Gibbs**, assistant station manager for Pan American World Airways in London for the past two years, has been promoted to industrial relations representative, Western European Region. He succeeds **Ted Cook**, transferred to Division industrial relations.

**Charles Aid**, formerly station manager at Dallas, has been advanced to supervisor of stations for Braniff Airways. He joined the company in 1939 as a cargo handler.

**Frank L. Musgrave**, former district manager for United Air Lines at San Francisco, has been appointed administrative assistant to **D. F. Magarrell**, vice president—passenger service. Musgrave, a 16-year UAL veteran, was replaced by **Hal Furman**, formerly district passenger service manager at Los Angeles. **David H. Robertson**, former staff superintendent—ground services, at UAL's Denver operations base, succeeds Furman at LAX.

**Henry P. Huff, Jr.**, has been promoted from operations manager to vice president of operations for Slick Airways.

# Airline Commentary

By Eric Bramley



**W**HEN you're selling one airplane against another, it helps to have a good catchy slogan stressing your product's good points. **Sid Stewart**, president of Chicago and Southern Air Lines, says that **Kirk Yost**, of Lockheed's sales staff, has one (and it sounds like the slogan of the year) to sell the Constellation against the double decked Stratocruiser. The slogan: "No stairs to climb."

*When 70 passengers travel on a transcontinental air coach flight, there's quite a terrific demand on the rest room facilities. This, as you can imagine, creates difficulties for the crew, which, like everyone else, has need to use these facilities from time to time. However, the crew can't very well take the time to stand in line. The captains on one of the scheduled airlines have solved this pressing problem. They flick a switch, on goes the "Fasten Seat Belts" sign, and in a few moments the way is clear. Very effective, we think.*

Airline officials' salaries are open for everyone to see, because they must be filed with the Civil Aeronautics Board. You can tell who was paid what, whether he got a raise, etc. While reading through these, we came across the interesting case of our friend **Terrell C. Drinkwater**, president of Western Air Lines. Since becoming WAL's president, Terry has been running a tight little show, cutting costs, increasing revenues and getting the company in good shape. He's really cost-conscious, and it shows in his salary. In 1949, he received \$34,999.92. To start 1950, he got a raise. However, he won't have any trouble justifying it to CAB and he won't have any stockholders jumping on his neck. The raise amounted to eight cents (8c) and he now receives a nice round \$35,000. An 8c boost will hardly cover the increased cost of living, Terry. WAL's biggest "raise" last year, as shown on page 24, was an \$11,083.32 boost for **Art Kelly**, vice president-sales but don't let it fool you. Art's 1949 salary as an officer was reported to CAB only from the date of his election in November. His 1949 pay as assistant to the president isn't included.

*Here's a real testimonial for the air mail service and a pat on the back for the publicity staff of Continental Air Lines, headed by Stewart Faulkner. When Stan Halberg and Lynn Dennis were elected vice presidents of CAL, AMERICAN AVIATION wanted a picture of them to print on the cover. Deadline was close. Ed Leasure, the company's Washington attorney, told us he was about to call Denver headquarters on a legal matter and would ask that the picture be snapped and mailed immediately. He placed the call shortly after noon on a Tuesday. On Wednesday morning before 10 o'clock, a selection of pictures was on our desk in Washington—and the prints weren't even completely dry. That's what we call real service, from the CAL staff, Post office Dept., and the airlines that carried the mail.*

Any of you airlines bothered by requests for passes from unauthorized people? Well, here's something you can have printed in reply. Seems like that great showman, P. T. Barnum, received thousands of requests for passes. His answer, according to **Hayes Dever**, Capital Airlines' public relations director, was a small card on which was printed the following:

Thou shalt not pass .....Numbers xx. 18.  
Suffer not a man to pass .....Judges iii. 28.  
The wicked shall no more pass .....Nahum i. 15.  
None shall pass .....Isaiah xxxiv. 10.  
This generation shall not pass .....Mark xiii. 30.  
Beware that thou pass not .....2nd Kings vi. 9.  
There shall no strangers pass .....Amos iii. 17.  
Neither any son of man pass .....Jeremiah li. 43.  
No man may pass through because of the beasts .....Ezekiel xiv. 15.  
Though they roar, yet they cannot pass .....Jeremiah v. 22.  
So he paid the fare thereof and went .....Jonah i. 3



Musgrave

# CONTINENTAL

## ... First Name in Lightplane Power

### RECORDS ARE ROUTINE WITH CONTINENTAL



#### DISTANCE

Capt. William C. Odom set new over-water record for light planes, flying from Honolulu to the Mainland in January, 1949. In March, Capt. Odom broke his own record, flying same Beechcraft Bonanza from Honolulu to Teterboro, N. J., 5,004 miles.



#### ENDURANCE

Woody Jongeward and Bob Woodhouse landed their Aeronca Sedan at Yuma, Ariz., Oct. 10, 1949, after remaining aloft 1124 hours—or six weeks and five days.



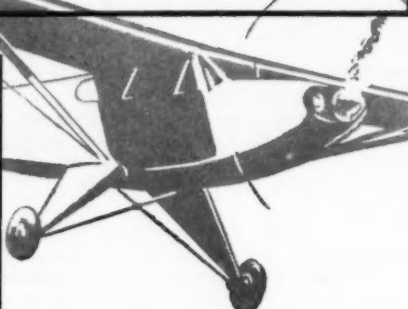
#### ALTITUDE

Sra. Ana Luisa Branger set officially-certified international altitude record of 24,504 feet in her Piper Special with Continental C90-8F engine on March 31, 1950, at Congressional Airport, Rockville, Md.



#### SPEED

John Paul Jones of Van Nuys, Calif., broke midget plane speed record at Detroit-Wayne Major Airport Aug. 13, 1950, winning Continental Motors Trophy Race at speed of 187.785 m.p.h., in home-built plane with C85 Continental engine.



Not only in pilot acceptance, but chronologically as well, Continental is truly the first name in the field of power for utility aircraft. Continental gave private flying its first real boost by introducing the famous A-40 more than 20 years ago. And because it has consistently pioneered in the things that mean safer, surer flying, Continental is pilots' overwhelming first choice today.

Underscoring this leadership is the fact that major records in all phases of aircraft performance—distance, endurance, altitude, speed—are Continental-held. Of even greater importance from the owner's and operator's standpoint is the maintenance of established service wherever people fly. It is wiser today than ever before to choose a plane with Continental power.



ONLY CONTINENTAL BACKS YOU WITH

ESTABLISHED WORLD-WIDE SERVICE

**Continental Motors Corporation**  
Aircraft Engine Division  
MUSKEGON, MICHIGAN

Capt. Clyde S. McCall has been promoted to assistant superintendent of flight for American Airlines' southern region, succeeding Capt. S. P. Bittner, who has returned to line flying.

W. E. Weatherly has been appointed manager of operations for American Airlines at Texarkana, where Mid-Continent Airlines personnel have handled AA operations since 1947. Weatherly, a 14-year veteran, will be assisted by Billie B. Blocker, former operations agent for AA at Midland-Odessa, and J. W. Jessup, former air freight agent at Dallas.

Billy R. Watson, manager of Pioneer Air Lines' Las Vegas station for the past three years, has been appointed station manager at Big Spring, in charge of all the company's activities in that area. Lee Hobdy, assistant station manager at Albuquerque, has taken over Watson's former post.

### TRAFFIC & SALES

W. Robert (Bob) England has been appointed director of sales for Central Airlines.

M. Cullen Wilkin has been promoted to vice president—sales of Slick Airways. He has been with the all-freight carrier since its first year of operations.

Arven Saunders, former New England sales representative for American Airlines, has been appointed sales man-



Saunders

Grant

ager at Miami, replacing Robert S. Grant, who resigned to become district sales manager for National Airlines in Miami.

Charles H. Hughes has been promoted from lead ticket agent to chief ticket agent for Trans World Airlines at Pittsburgh, replacing Michael J. Volpe. Latter transferred to Washington as reservations manager, succeeding Robert Paul, who transferred to the district office in New York. J. W. Eury was promoted from ticket agent to lead ticket agent to fill Hughes' former post.

John Benson has been named manager of reservations for Braniff Airways. He joined BNF last August as special sales representative at Dallas.

Hugo K. Mayr was appointed general manager of Swissair's American Division, replacing Walter O. Etienne, reassigned to Switzerland.

James J. Fauteux, Northwest Airlines district sales manager at Pittsburgh and a 22-year veteran in the transportation field, took over as New York district sales manager for NWA on April 1. He succeeds Warren R. LeRoy, who was assigned to the newly created position of district sales manager for the Twin Cities. George Knox, former Minneapolis district sales manager, was named d.s.m. at Madison.

## SHOWN AT AOC MEETING:

# Mobile Covered Gangplank Could Speed Plane Loading

By KEITH SAUNDERS

**A**N EXHIBIT which attracted attention and comment at the Airport Operators Council meeting in Memphis in late April was the scale model of Airways Engineering Corporation's passenger loading gangplank for aircraft.

This device, on which patents are pending, is pronounced by its designer, Henry M. Henion, as "a feasible answer" to the economic questions of:

- Reducing the number of gate positions and amount of ramp space required at a large airport, thus cutting construction and maintenance costs.
- Reducing loading and unloading time of aircraft at busy terminals, thus enabling transports to be flown many more passenger-miles in a day.
- Sheltering airline passengers from exposure to sun, rain, wind, snow and 'prop' blast while embarking or debarking, and thus making it easier to sell people on air travel and keep them sold on its desirability.

The Henion invention is an enclosed, telescoping gangplank which swings out from the side of the terminal building or apron finger building, to which it is affixed, and then extends itself out to the door of any type of transport plane.

Here are specification data as set forth by Airways Engineering:

Overall length (telescoped) 51 ft.  
Overall length (extended) 93 ft.  
Maximum floor height .... 12 ft.  
Minimum floor height .... Ground level  
Turning radius .... 180 degrees  
Grade % at ground level (extended) ..... 7%

## How It Operates

The ramp is self-powered and operates along narrow radial track set flush with the ramp and extended over an arc of 180 degrees from the side of the building. Here is how it operates:

An operator, probably the airline's regular gate man, stands in the open end of the telescoped ramp and pushes a button to start an electric motor that swings the stanchion attached to the ramp out from the side of the building until the end is aligned with the door of the plane. A touch of another button extends

the telescoping section out, by means of a chain and sprocket arrangement, as many more feet as are necessary (up to 42 feet) to reach the side of the plane. Then if the ramp is too high or too low another push-button will raise or lower it hydraulically until it fits exactly around the door.

## Sealed to Fuselage

A cushion of foam rubber makes a fairly tight seal with the fuselage of the plane and the cabin door can then be opened, swinging inside the accordion-like open end of the extended ramp. Then the operator has only to extend a small platform from the ramp to just inside the plane cabin, and the loading or unloading of passengers can begin.

For planes with self-contained loading stairs, such as the Martin 2-0-2 and the Convair Liner, the ramp can be lowered down to apron level and the passenger, although subjected to some ascending and descending, at least is sheltered while enplaning or deplaning.

First installation of the Henion gangplank is likely to be made on one of the fingers of the new terminal building now about two-thirds completed at Philadelphia International Airport. These finger-type structures, extending out from the second floor of the terminal, will lend

themselves ideally to use of this type of gangplank.

Furthermore, Philadelphia is served by eight scheduled airlines, including one international carrier, and will therefore afford airline operations people a fine opportunity of studying the operation of the gangplank and weighing its merits.

The management of Friendship Airport, Baltimore, where passenger handling is done on the second-floor level, also has manifested interest in the gangplank.

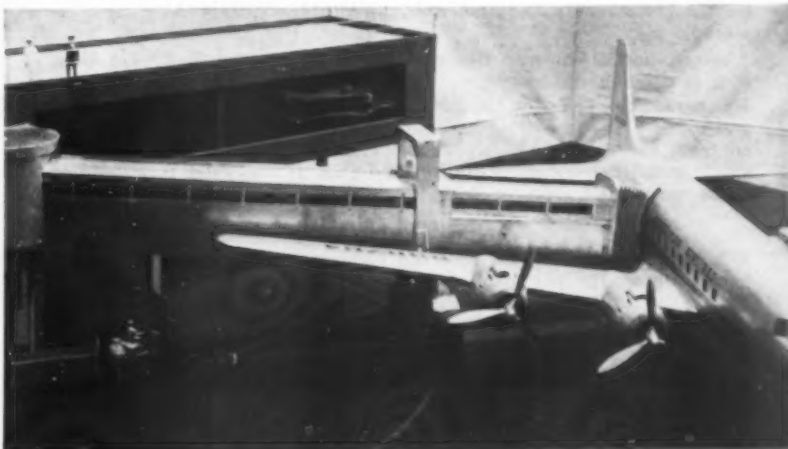
## Initial Cost

The first of the gangplanks to be built will cost about \$25,000, it is thought, and this is expected to be borne by the City of Philadelphia, with CAA possibly providing 50% of the money.

However, the gangplanks probably could be produced in quantities at a cost of \$10,000 to \$15,000, and Airways Engineering officials feel that they can sell a number of cities on making installations at that price. Their best prospects, of course, are cities engaged in building new airports or compelled to expand their present facilities to accommodate increasing traffic.

They believe they can show a city that one of the gangplanks will eliminate the need for at least one additional loading position, initial cost of which might be \$100,000 or more, plus continuing repair and maintenance of apron paving and servicing facilities.

They are of the opinion that it could be arranged with the company making the gangplanks to allow a city to finance the purchase price over a period of about 10 years. The city, in turn, could pass the charge



TRUE SCALE model of Airways Engineering Corporation's telescoping passenger gangplank as it looks when extended to the cabin door of a DC-6 model. Note track on which stanchion-supported gangplank rides, and note space for motorized equipment to pass beneath the covered overhead walkway.



## AIRPORT NEWS DIGEST

**Big Programs:** Two major airports had the way paved this month for going ahead with long-delayed improvement programs. They are: **Columbus (O.)**, where an airport bond issue of \$3,388,100 was approved by a vote of 68.9%, and **Indianapolis**, where a State Supreme Court decision apparently gave the city to push its total indebtedness beyond the constitutional limit of 2% of the assessed property valuation.

The Columbus bond issue proceeds, together with Federal-aid grants, will give the city over \$6,700,000 for a new terminal building at Port Columbus, a 3,500-ft. extension to the E/W runway, and construction of additional taxiways and access roads.

In Indiana, millions of dollars worth of improvement projects, including a \$3,655,605 program at Weir Cook Municipal Airport, had been held up for some time awaiting outcome of the Supreme Court case, which involved the bonding powers of special taxing districts such as aviation boards and sanitation boards. A previous court decision had made it appear that such bodies could not issue additional improvement bonds in any city or county that had reached or approached its 2% limit.

Next big airport bond issue coming up is the \$14,500,000 issue to be voted upon at Los Angeles on May 29. L.A. aviation people are hopeful.

### TERMINAL AREAS, BUILDINGS

- **San Francisco** has advertised for bids for construction of proposed \$5,000,000 air terminal building. Bids will be opened May 9 and tentative date for start of construction is June 18. Contract time will be 500 days.
- **Design plans for \$2,000,000 terminal building** at Milwaukee's General Billy Mitchell Field have been completed and it is hoped construction can be started this year.
- **Official dedication of new \$300,000 administration building** at Harding Field, Baton Rouge, is set for Armed Forces Day, May 19.
- **Oakland (Calif.) Board of Port Commissioners** has proposed more than \$2,000,000 in airport improvement projects, including a \$1,500,000 terminal building, during next biennium.

### RUNWAYS, TAXIWAYS, PAVING

- **A \$208,830 contract** has been let for second-stage construction at Capital Airport, Springfield, Ill., including central parking apron, connecting taxiways and vehicular parking area.

### LIGHTS, LANDING AIDS

- **ILS system for the 6,000-ft. instrument runway** now nearing completion at Kent County Airport, Grand Rapids, has been approved by CAA, subject to equipment availability when runway is completed.
- **Installation of runway lights** at Memorial Airport, Jefferson City, Mo., is nearing completion.
- **Contract has been let for installation of ILS system** up to the control tower at Lockheed Air Terminal, Burbank, at cost of \$87,191 and contract for rest of the work is to be let shortly. Installation of single-row, high-intensity approach lights at the field is scheduled to be contracted soon.

### MISCELLANEOUS

- **State of Minnesota** has received sufficient revenues under its airport program to pay back \$1,180,000 of \$2,450,000 borrowed from state trust funds to build and improve airports. Total amount will be paid off by 1959 or earlier.
- **Airport commissioners at Little Rock, Ark.**, are talking of increasing landing fees for all multi-engined aircraft using Adams Field after present contracts expire this summer.
- **CAA is working out a new traffic pattern** for Cleveland Municipal Airport to tie in with proposed additional east-west runway on south side of the field.

—KEITH SAUNDERS

on to the airline or airlines using the facility, levying a use charge equal to the amount of the annual payments against the principal cost, plus interest charges.

### Gangplank's Advantages

The airlines, they point out, should not object to such a charge because the gangplank would:

- **Increase public acceptance** of air travel and thereby increase their passenger revenues.
- **Eliminate passenger traversal** of open aprons, a procedure that often largely offsets the value of the expensive air conditioning and cabin pressurization systems in today's transport planes.
- **Increase safety** by eliminating passenger encounter with motorized equipment operating on the ramp, and by obviating the possibility of fires being started from a cigarette or match tossed away by a passenger.

- **Accomplish the loading and unloading** of passengers simultaneous with refueling and the loading and unloading of cargo, thus saving five to 10 minutes at each intermediate stop and thereby increasing daily plane utilization and earning capacity.

Airways Engineering Corp. thinks its passenger gangplank will solve a lot of problems for the airports and the airlines, although a few obstacles must yet be cleared.

One of these is final CAA approval of the engineering specifications, so that the gangplanks, as a part of airport terminal buildings, will be eligible for Federal-aid funds. A.E.C. is confident this approval will come through in the next few weeks.

### Seeking Builder

Then there must be found a manufacturer, possibly a bridge builder, who can and will build the gangplanks at a reasonable price. No difficulty is anticipated here, although national defense orders may make manufacturers less likely to be interested in taking on a new project such as this.

Another possible obstacle is the procurement of DO ratings for the aluminum and other materials required for production of the gangplanks. It is not thought, that this will be much of a problem under present defense production policies.

A major step, however, will be actual operation of the proposed test installation at Philadelphia. If the airport and the airlines try the gangplank and find that it will do most of the things claimed for it, it might well become standard equipment at most major U. S. airports within the next few years.

## AIRPORT PEOPLE

John P. Connelly is new manager of Dayton (O.) Municipal Airport, succeeding Hamilton Webster, resigned.

Richard V. Wolf, manager of Sioux City (Ia.) Municipal for the past three years, has been granted a military leave of absence, having been recalled to active duty as a major in the Air Force. Cedric Hoskins, his assistant, has been named acting manager, and Marvin W. Coffee has become acting assistant manager.

Lloyd D. Jensen has succeeded Carl Swanson, Jr., as chief traffic controller at Dress Memorial Airport, Evansville, Ind. He had been chief controller at Akron-Canton. Swanson was transferred to Phoenix.

T. G. (Mike) Gebhart, former manager of the Dodge City (Kans.) Air Service, has been named manager of the municipal airport, succeeding Stan Sutton, who is on military leave.

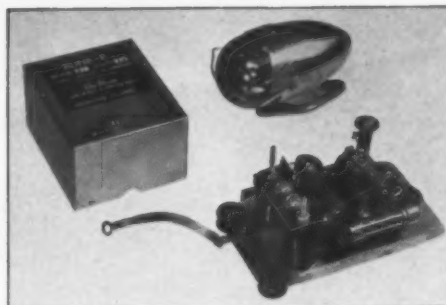
## CAA AIRPORT GRANTS

Federal-aid airport grant offers totaling \$2,898,112 were made by the Civil Aeronautics Administration during March to 34 communities, as follows, with airport classes in parentheses:

Alabama: Sel-Field, Selmax (4), \$22,500.  
California: Los Banos Airport (2), \$5,577; Ontario International (5), \$25,982; Palmdale (5), \$80,000.  
Connecticut: Bridgeport Municipal (4), \$20,000.  
Georgia: Carrollton Mun. (2), \$22,187.  
Idaho: Boundary Co. Airport, Bonner's Ferry (1), \$3,117; Rigby (1), \$8,409.  
Illinois: Rockford (3), \$49,000.  
Iowa: Mason City Mun. (4), \$16,400 (two grants).  
Kansas: New Garden City Mun. (5), \$18,500; Great Bend Mun. (7), \$13,000; Salina Mun. (3), \$10,500.  
Kentucky: Blue Grass Field, Lexington (3), \$28,000.  
Louisiana: Alven Callendar Airport, New Orleans (4), \$48,917.  
Michigan: Detroit-Wayne Major (7), \$133,000; Kent Co. Airport, Grand Rapids (5), \$82,000.  
Minnesota: Mankato Mun. (2), \$50,000.  
Mississippi: Greenville Mun. (3), \$12,905.  
New York: La Guardia Airport (5), \$17,250; N. Y. International (7), \$234,250.  
North Dakota: Columbus Mun. (1), \$2,300; Glen Ullin Mun. (1), \$1,400.  
Ohio: Gallon-Crestline (1), \$15,000.  
Oklahoma: Woodring Airport, Enid (5), \$2,930; Paula Valley Mun. (2), \$4,888.  
Pennsylvania: Greater Pittsburgh Airport (5), \$400,000.  
Puerto Rico: San Juan International (6), \$600,000.  
Tennessee: Cleveland Airport (1), \$17,500.  
Texas: Houston Mun. (5), \$850,000; Victoria Co. Airport (5), \$36,025.  
Virgin Islands: Alexander Hamilton Airport, St. Croix (3), \$21,225.  
Wyoming: Lander Mun. (2), \$21,650.  
These increased to 1,690 the number of grant offers made under the Federal Airport Program, and boosted the amount of Federal funds involved to \$139,550,984.

# NEW the Van Dusen BLINK-R

NAVIGATION LIGHT BLINKER



## TESTED • APPROVED and ACCEPTED

AT NIGHT, in the air your navigation lights can easily be confused with stars above or lights below. Under some conditions you might as well have no lights at all.

That's why every plane should have the new, lightweight, compact Van Dusen BLINK-R which weighs only 13 ounces and measures 3" x 3 3/4" x 2". Here's an electronically-controlled, precision-built light flasher (45 to 60 cycles per min.) which will give years of service. It's completely shielded to prevent radio interference and leaves lights "steady-on" in event of any malfunction.

tion. Very easily installed. 12 or 24 volt models.

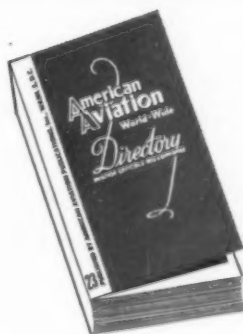
The Van Dusen BLINK-R has been exhaustively tested and proven thoroughly reliable. Write for further details.

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BLINK-R Model BR G-1 has been selected as standard on the Army's new Cessna L-19 observation reconnaissance airplane and the Bell H-13D Helicopter.



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Spring-Summer—1951

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PIPER AIRCRAFT CORP. is building an agricultural plane which can be used for both dust or spray work. The chemical bin will carry either dust or liquid and dispersing attachments are interchangeable. The basic plane is a Super Cub with flaps and a 125-hp. Lycoming.

## 6,000 Planes Mean Big Business:

# Biggest Year Ahead for Aerial Crop Dusting

By VERA FOSTER

**W**ITH INCREASED agricultural production a "must" for mobilization, 1951 will be the biggest year yet for aerial dusting and spraying, and airplanes used for this purpose may reach 6,000, a 20% increase over 1950.

Several factors indicate that this will be agricultural flying's biggest year, broadening the market for aircraft:

- **Increasing recognition** of aerial application by the farmer.
- **A farm labor shortage.**
- **Expansion of food crop acreage** as well as cotton acreage.

Two troublesome spots may be:

- **Experienced duster pilots** are scarce.

- **Some new chemicals** may be in short supply. However, farmers can be expected to fall back on older types.

At the opening of the 1950 season, about 5,000 agricultural planes were in use. CAA predicts that 800 to 1,000 will be added this year, and that thereafter aerial dusting and spraying will expand at a healthy rate. Best estimate is that the increase will be 500-600 planes yearly.

At present, about half of the planes gross less than 1,500 lbs., with the remainder ranging from 1,500 to 5,000 lbs. A number of the planes are old; the market for new aircraft is encouraging.

One new candidate is Piper Aircraft Corp.'s 1951 PA-18 Super Cub 125 agricultural plane, powered by a 125-hp Lycoming engine. Plans are to produce two a day this year. It will sell for \$4,975 with combination unit for spray or dust. If an operator furnishes a plane, Piper will install a dust unit for \$905, a spray unit for \$1,013, or a combination for \$1,280.

The Piper 125 has a watertight tank known as the "Whitaker" combination, usable for either dust or spray work with minimum alterations. Whereas 1950 models had a bin that could carry either 60 gals. or 9½ cu. ft. of chemical, this year's plane will carry a 100-gal. container.

### Flaps Spread Dust

A swath of dust 40 ft. wide is laid down from the Piper with aid of downwash from flaps. For spray operations, two pipes are mounted under the wings on outriggers and extend almost the full span, again giving about a 40-ft. width. Liquid chemical under high pressure is fed to 24 atomizing nozzles by a wind-driven, fan-operated pressure pump.

Empty weight of the Piper 125 is 845 lbs., normal gross, 1,500 lbs. Under revised CAR Part 8, plane may be operated at gross of 2,000 lbs., and at that weight, Piper states, it will leave the ground in 325 ft. and clear a 50-ft. obstacle in 950 ft. (plane has flown several times at 3,000 lbs.).

Landings with full load take less than 150 ft. landing roll.

Piper says the 125 will get off in less space with same load than 450-hp war surplus biplanes and operate more economically. The Lycoming engine incorporates a swinging motor mount to facilitate work at the rear of the engine. Tandem balloon wheels are available for soft or rough field operations.

### Build Plane from Kits?

The much-discussed agricultural plane developed at Texas A&M is turning out "about as computed," according to Fred Weick, director of the college's personal aircraft research center.

Normal load is 800 lbs. with provisions for overloading to 1,200 lbs. under favorable conditions. Speed while dusting or spraying is 60 mph, cruising speed about 100 mph, four hours' range, 600 fpm rate of climb. It lands at 45 mph loaded, 37 mph empty. Take-off distance to 50 ft. height is 1,300 ft.

Industry officials estimate this plane would cost \$10,000 to \$15,000, depending on volume produced. It could be built in kit form, Weick says, adding that some operators have indicated they might build their own planes after present supply of surplus aircraft disappears.

Dispersing equipment allows immediate switchover from dusting to spraying. Special lines are provided



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# Twin-BONANZA



Range, high performance and ruggedness make this newest Beechcraft right for business — and right for military service, too. Designed primarily as a super-roomy, five-place executive plane, capable of seating six for medium-range flights, the Twin-Bonanza is a superb "short-cut" for defense-busy executives. For military use, this *one* plane can serve as a personnel transport, twin-engine trainer, photographic, ambulance or cargo plane —

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The Twin-Bonanza has the ruggedness and safety of its noted Beechcraft predecessors. Structural and operational standards are far in excess of government requirements. Your Beechcraft distributor has detailed information on this new Beechcraft. Check with him today, or write Beech Aircraft Corporation, Wichita, Kansas, U.S.A.



TWIN BONANZA



BONANZA

- Range at 60% power, 1,005 miles
- Top speed at sea level, 200 mph
- Cruising speed at 10,000 ft., 191 mph
- Rate of climb, 1,650 fpm
- Service ceiling, 20,400 ft.



MODEL 18

**BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS**

## LOCAL OPERATIONS

# THE Washington View

By Vera Foster



**M**ATERIALS for the manufacture of at least 2,400 non-air carrier civil aircraft are assured if the supply schedule set up by CAA's Office of Aviation Defense Requirements is OK'd by the Requirements Committee of the National Production Administration. The materials schedule is based on 5/7 of last year's production plus a proportionate amount of parts. The proposed schedule will serve, if approved, as an interim measure for 90 days to give CAA time to study requirements in detail and establish a revised program. DPA indicates that any future revision will be upwards.

*There is growing concern across the country at the rate the services are siphoning off pilots and mechanics. Each man in the draftable age bracket, from 19 to 26, is considered by Selective Service as an individual case by his local draft board. He or his employer may submit evidence of his value to "national health, safety and interests."*

*The California legislative assembly, however, is not leaving the state supply of crop dusting pilots and mechanics to chance or local board loopholes. The Assembly has passed a resolution urging deferment from military service for pilots and mechanics of dusting firms. The resolution would defer about 450 pilots and mechanics, at least until replacements could be trained. Many of the nation's 6,000 crop dusting pilots are over 26 but a large number are liable to call as reservists.*

*Increase of taxes on small airports is causing many operators immediate concern. Many fields, once suburban, are now classed and taxed the same as residential areas surrounding them. In California, E. G. (Slim) Kidwell, well known owner-manager of Central Airport, has sold his property to a sub-divider after property taxes in the past 12 years increased from \$1,600 to \$7,250 a year. Considering further tax boosts slated and profit to be derived from sale to sub-divider, Kidwell made the deal and moved his Bellanca agency to Torrence, Calif., municipal airport.*

*The State Plan for Civil Aviation and Civil Defense has a new name and a longer one. It is now the Emergency Aviation Council State Plan for Civil Mobilization with Annex for Civil Defense Organization. It is still the basic model plan suggested by NASAO and other groups by which control airports can lay their hands on pilots and planes when needed for disaster aid. The Federal Civil Defense Administration now has the plan and expects that it will be approved the latter part of April. About 25 states have not waited for Federal approval but have gone ahead with defense plans which include civil aircraft.*

*On Capitol Hill things are "pending—no action" regarding bills reintroduced in the House and Senate on ROTC Air Training and Airman Training (Revision of Civil Aeronautics Act of 1938). A bill has been introduced in the House which recommends Federal funds, to be matched by State funds, for aeronautics courses, including flight experience, for high school seniors. So far no companion bill has been introduced in the Senate.*

*Four down and two to go on contract awards for civilian operation of basic pilot training schools. Fourth award went to Garner Aviation Co., Richmond, Va. to operate a school at Bartow, Fla. Two more contract awards are coming up, but not yet announced on schools to open July 9 and August 21. May 10 is still deadline for submission of bids.*

*Requests for U. S. aerial dusting and spraying aid under Point IV funds have materialized. Three Overseas Airlines DC-4's carrying 8 small planes, supplies and over six tons of insecticide, were dispatched by the State Department the middle of April to combat locusts in Iran. Watch for other Point IV overseas aid requests for spraying and dusting.*

for chemicals, such as 2-4D, which are hard to clean out of a tank.

Pilot protection has been stressed in the design. Big contribution to this is the good visibility afforded by the ship, since 50% of crop control accidents in 1950 were attributed to collision with objects.

Texas A&M is also working on improvement of distribution equipment used on aircraft. Careful measurement of dust and spray with special weighing devices will enable the research group to develop more effective equipment, Weick states.

### Lower Costs Expected

Reduced cost to the farmer of aerial dusting and spraying is expected to result from Department of Agriculture research on more effective dispersing equipment. The Department is now evaluating present equipment. Its research includes tests for uniformity of spread, size of spray particle, coverage of plant, and effect of temperature, humidity and wind conditions. The hope is to discover the most efficient way of dispersing spray and dust with each type of plane and chemical form. Pilot techniques will also be studied.

Wind tunnel tests are being considered to study air patterns 100 yds. behind the plane. Past tests have considered patterns only in the plane's immediate vicinity.

Agriculture officials feel it may be possible to change the shape of the airfoil to improve distribution patterns. Piper and Texas A&M seem to agree—both recommend use of flaps to get a downwash effect in dusting.

Once equipment and techniques have been evolved for measurement of the spread and effect of the aerially-applied chemicals, less wasteful combinations of chemical and filler can be developed. Result will be less cost to the farmer and, it is felt, increased use of agricultural planes.

### Foster Replaces Ward

Vera Foster, commercial pilot with more than 3,000 hours' flying time, has been named local operations editor of AMERICAN AVIATION magazine, replacing Barbara J. Ward who is returning to India with the U. S. Office of Information Service in New Delhi.

Mrs. Foster is a member of the Ninety-Nines, holds instructor, link, ground school, and other ratings, and has been working for the Civil Aeronautics Administration in Washington.



# Cross-Country

WITH LOCAL OPERATORS

By Page Shamburger

**ALABAMA**—O. N. Barney, Mobile manager, has been an airport manager since 1928. What an airport he's got in **Bates Field**, too. It's 816 acres with a beautiful terminal building housing not only a restaurant, but a dining room, news stand and gift shop. There's



O. N. Barney (center), manager of Bates Field, Mobile, Ala., with A. E. Letz (left), CAA chief communicator, and Sam Titone, CAA chief controller at Mobile.

only one trouble . . . it's 13 miles from town.

O. H. Wilson has an approved repair shop on the field, and it was one of the first on the Gulf Coast. His main revenue is from a war contract, now. The war contract is for reactivating desks and metal chairs. Tug says it keeps his A & E's in good practice on metal work and welding, though. He's got plenty of aircraft work, too, and has a bright outlook for the future.

Leonard Englund has a flying service on Bates and still manages to get GI's. He's going in for multi-engine training this spring and thinks another program of some type is a necessity for operators.

The transient hangar on Bates is managed by **Jack Conner**. Jack flew for Cities Service before opening this operation and gives the best service imaginable. It's 24-hour, too. Jack has a courtesy car and it's a convertible. It's really wonderful, and he makes you think it's a privilege to him to have you stop. That's **Jack Conner's Mobile Air Service**; stop there if you're down Mobile way.

**Gadsden Municipal** is one of those wonderful things . . . an airport being reopened. J. O. Lassiter is the new manager and B. F. Wilson the full-time repair man. Gadsden can boast of about 25 privately owned planes and they really fly, too. It's 24-hour airport, with Wilson living right on the field. Transients will like the friendliness and service at Gadsden, to say nothing of the three LONG paved runways.

R. L. Thomas and Southern Airways on Birmingham Municipal are doing a bang-up job selling airplanes. Bonanzas are the planes, and there just doesn't seem to be enough of 'em. Southern

Airways has one of the most complete shops in the Southeast and gives you service par excellence.

Tom Isbell of Skycraft School of Aviation still gets most of his revenue from students and from charter. He's on Birmingham Municipal, too, and has a bunch of privately owned planes based with him. Transient trade's good, too, he says.

**Aero Service and Supply** managed by two Woods on Birmingham Municipal has almost every part and accessory imaginable. Automotive parts are carried, too, but the aircraft parts outsell 'em. Industrial accounts on control cables and boots are the mainstays. Too, they've got all series of Continental engines, radio equipment, etc.—just name it and Aero Service and Sales has it.

**Auburn-Opelika Airport** is unusual in the fact it is owned by the state and run by a college, Alabama Polytechnic Institute (Auburn). It's a swell airport with the nicest administration building seen in a long time—a beautiful modernistic glass and brick job just moved into and complete even to an



Recently completed administration building at Auburn-Opelika Airport, Auburn, Ala.

observation deck. Auburn has an aviation department and the students get 3 semester hours for a private ticket, 3 more for commercial, and 3 more for instructors.

**Pryor Field** in Decatur is one of the most "owned" airports yet seen. Decatur and Athens are the towns and Morgan and Limestone are the counties, and all with fingers in Pryor Field. State aviation and the government were in on the construction, too, and believe me, the airport's worth it. Ernie Blackwell is the manager and justifiably proud of his airport. He instructed here during the war and remained as manager and operator of the **Tennessee Valley Air Service**. So far the airport has paid off every year, with most revenue coming from maintenance and service. There're 40 planes based on the field, and a tremendous amount of activity. Ernie also operates 5 dusters and put out 600,000 pounds of dust last year. It's mainly killing the boll weevils, but, he says, defoliating is beginning to stand on it's own.

**TUSCALOOSA** sings a bright song of good business. Phil Massie, manager and Peggy Sanderson have sold three airplanes in the past three weeks, and cash paying students are all over the place. Not only that, but they have between 25 and 30 privately owned planes based with them. It's **Dixie Air Service** with J. B. Carl as owner and it's the only approved A & E school in Alabama. Phil says the A & E's held them together during the slump, but the flying has taken the lead again, now. They've even got 25 new students from the university.

♦ ♦ ♦

**MISSISSIPPI**—Bob Neblett, manager of Jackson Municipal (Hawkins Field), is right on the top for aviation promoters. "Curly," as he's known in air show circles, is doing every conceivable thing to interest Jackson citizens in the ultra airport almost within city limits and to interest transients in the city. Jackson is called the "Crossroads of the South" and Bob and the other Jackson aviation enthusiasts like to consider the crossing concrete runways as the "Aerial Crossroads of the South." They look the part, too.

Hawkins Field is unique in the fact there has been no bond issue and no taxpayer's cash financing its operation—it's self sustaining. As matter of fact, airport revenues for 1949 were \$75,049, and any airport manager will know that's all right! Bob says the airport manager can only do as much as the city commissioner sees the need . . . and fortunately for flyers and for Jackson, R. S. Withers is a far seeing man.

If you're not a member of **The Confederate Air Force**, you are missing the time of your life. C. A. F. of the Planet Earth, Inc. with International Headquarters in Vicksburg is a non-profit disorganized organization with the main principle and objective of having a good time. The Confederate part does not mean damnyankees can not be members, but was chosen mainly to give the organization color.

There are no weekly meetings and the dues are \$1.00 a year with the true purpose really being to advance aviation, air safety, and air education. With Vicksburg the seat of the Confederacy, what better place to originate the Air Force? C. A. F. is only a year old and is already boasting many well known members, such as **Max Balfour** and **Zack Mosely**, General Bagby is growing a handle bar mustache for the reunion in Vicksburg this May and with his linen coat and string tie says if you're interested in OCS for The Confederate Air Force, just let him know . . . at Box 254 in Vicksburg . . . and from now on, just call me colonel!





## READERSHIP . . .

. . . . . first with the date lines and first with by-lines, American Aviation is first choice with aviation Men of Decision. More than four "demand" readers per copy, American Aviation gained 125 pages of advertising during 1950 over the previous year, a gain of more than 25%.

# American Aviation

Washington, D. C.

MEMBER



## WINGS OF YESTERDAY

### 25 Years Ago

Walter T. Varney's Swallow mail planes, which were found to be underpowered for the Elko, Nev.-Pasco, Wash., contract air mail route, were being re-equipped with Wright Whirlwind 200-hp. engines.

The U. S. Air Force Association, under the chairmanship of Capt. E. V. Rick-enbacker, was conducting an active campaign in favor of a single Air Force.

The annual report for Curtiss Flying Service, Inc. (formerly Curtiss Exhibition Co.) showed a total of 2,265 flying hours, 2,080 of which was paid commercial flying, bringing in revenues of \$90,000, a gain of more than 33½% over 1924.

### 10 Years Ago

(IN AMERICAN AVIATION)

The War Department created four interceptor commands within the Air Corps to defend U. S. coastal and industrial areas against aerial attack.

Robert A. Lovett was named to the post of Assistant Secretary of War for Air.

U. S. domestic airlines took delivery on 106 new transports and 356 engines during 1940.

## LETTERS

### Sunrise Serenade

To the Editor:

Just finished reading the magazine for April 2, and your remarks about Cebu and the clamor that heralds the arrival of morning in that distant country brought to mind and clarified a line of Kipling's that puzzled me beyond bearing when I read it, sometime during my high school years, a long, long time ago.

It's from one of those sad songs Kipling loved to write about the poor, exiled sahib, away out there in India, remembering how nice it is in England at Christmas time with holly all around and people making merry, and there's a moan about "white dust on the highway, and the stench in the byway," and he goes on to say that the women in the village grind their corn, "And the parrots seek the river banks each calling to his fellow, that the day, the screaming Eastern day is born!"

I remember thinking at the time that Kipling must have liked sleeping late, and used expressions such as the one above, and the one about the dawn coming up like thunder, as protests at having to get out of bed in the morning, but from what you say the poor man was only giving an accurate description of the way it was during his time, and apparently still is, in the mysterious far-away East.

I should have prefaced this note by saying how much I like reading about your travels, so I'll finish by saying so. I enjoy your gadding about nearly as much as you do yourself!

PATRICIA O'MALLEY STRICKLAND  
Trans World Airlines  
Washington, D. C.

## Busy Airports

To the Editor:

Has any airport in the U. S. experienced more than 400,000 airplane movements in a single year?

J. E. JACKSON  
Denver, Colo.

(Editor's Note: Reports for all airports are not available but the following reported above 400,000: Atlanta Municipal for 1947 with 436,616; Cleveland Municipal for 1946, 1947 and 1948 with 475,855, 519,474 and 438,587 respectively; and Phoenix Sky Harbor for 1947 with 425,942.)

## Selling Air on Ships

To the Editor:

I have just read the interesting article "Airline Salesmen Cover the Waterfront" in the March 5 issue of *American Aviation*.

This may be something fairly new for U. S. domestic airlines, however it is not for the industry as a whole. Way back in 1939 when I was working for Panagra in Cristobal, Panama Canal Zone, we used to board every incoming ship with the quarantine officers to solicit business—with excellent results. The same thing was done by the staff of the now defunct Isthmian Airways who used to operate tri-motored Fords between the two cities of Balboa and Cristobal. Many people preferred an aerial 30-minute flight between the Atlantic and Pacific rather than the long eight-hour transit of the Panama Canal by steamship.

In both Buenos Aires and Valparaiso, Chile, salesmen would meet Moore-McCormack and Grace Line ships whenever they arrived, to sell the famous "Over the Andes" flight between Buenos Aires and Santiago, Chile. Many extra sections were operated between these cities as a result of active solicitation of ship passengers—and this was way back in 1937 and 1938.

Here in Puerto Rico we derive a considerable amount of air business to the Virgin Islands and the Dominican Republic from passengers arriving via Bull Line and Waterman Line ships.

F. H. SHELDON  
Vice President-Traffic  
Caribbean Atlantic Airlines, Inc.

## Imaginary Airline

To the Editor:

Referring to Airline Commentary of Apr. 2, even I know that Jack Frye isn't president of General Airline, because there ain't no such animal. He's head of General Aniline.

J. P.

(Editor's Note: You are so right and our proofreaders are so wrong. Jack Frye is president of General Aniline and Film Corp.)

## Textbook Column

To the Editor:

We always enjoy reading your column "Over the Counter" and frequently quote your material in my classes on traffic and sales and airline advertising.

HAROLD S. WOOD  
Director, Air Transportation Dept.  
Parks College of Aeronautical Technology  
Saint Louis University  
E. St. Louis, Ill.

## EAL's Convairs

To the Editor:

Everyone knows, I think, that Eastern does not have Convairs as you state . . . How many of your readers have caught the slip?

DICK SONNENBERG  
("A Most Faithful Reader")  
Delta Air Lines  
Chicago, Ill.

(Editor's Note: Faithful Reader Sonnenberg slipped. Eastern operates Convairs which it

charters from Northeast Airlines. The Airline Commentary item referred to an "Eastern Convair with Northeast markings," meaning that it was being operated by EAL at the time.)

## BOOKS

THE TRANSPORTATION INDUSTRIES—1899-1946, by Harold Barger of Columbia University. Published by National Bureau of Economic Research, Inc., 1819 Broadway, New York 23, N. Y. 251 pp., plus appendices, index, 25 charts and 38 tables. \$4.00.

Offers new indexes of output, employment and output per worker for individual forms of transportation and for transportation as a whole.

BOXCARS IN THE SKY, by Richard Malkin, published by Import Publications, Inc. New York 4, N. Y. 282 pp., illustrated. \$4.75. A roundup of the development of the air cargo industry, written in popular style.

CLOUD PHYSICS, by D. W. Perrie. John Wiley & Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. Fully illustrated, 100 pp. \$4.50.

Dealing with the appearance of clouds, their internal physics and how this knowledge may be applied.

HIGH-SPEED AERODYNAMICS, by W. F. Hilton. Longmans, Green and Co., Inc., 55 Fifth Avenue, New York, N. Y. 598 pp., illustrated. \$5.50.

Originally published in England as an up-to-date treatment of high speed flight, design and construction of subsonic and supersonic aircraft and rockets.

## TECHNICAL LITERATURE

ELECTRICAL SYSTEMS: Design requirements, maintenance hints and uses of alternating-current electrical systems in aircraft are discussed in a new 70-page illustrated booklet now available from Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh, Pa. for \$1.50.

HYDRAULIC FLUIDS: The use of UCON hydrolubes, water-base hydraulic fluids, in landing gear, brake and flap control systems to minimize aircraft fires is covered by a 12-page booklet available from Carbide and Carbon Chemicals Division, Union Carbide and Carbon Corp., 30 East 42nd St., New York 17, N. Y.

MANUFACTURING TECHNIQUES: Selected case histories in "Modern Techniques in Aircraft Manufacturing" are contained in a new booklet available from The Glenn L. Martin Co., Baltimore 3, Md. Covers budgetary systems, procurement controls, design cost control, tool planning, blueprint reproduction, etc.

MAGNESIUM: An informative circular on magnesium, dealing with the nature of the metal, its production, trend and cost and uses, is available from The Magnesium Association, 122 East 42nd St., New York 17, N. Y.

## OBITUARY

### Dr. J. T. Macdonald

Dr. John Temper Macdonald, medical director for Pan American World Airways' Latin American Division, died April 3 at the age of 66 in a Coral Gables hospital.

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**Displayed Advertising:** \$10.00 per inch for less than 15 inches in one issue or in any 12-month period. For more than 15 inches, \$8.50 per inch; more than 30 inches, \$8.00; more than 60 inches, \$7.50; more than 90 inches, \$7.00; more than 120 inches, \$6.50. Space units up to full pages accepted in this section for classified-type advertising.

Forms close 30 days preceding publication date. Address all correspondence to Classified Advertising Department, AMERICAN AVIATION PUBLICATIONS, 1025 Vermont Ave., N. W., Washington 5, D. C.

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First class aircraft radio installation and repairman. Must be familiar with Collins and Bendix radio equipment and know all phases of radio navigation. Steady work. Excellent pay. Also need two A&E mechanics experienced on executive type aircraft. Great Lakes Airmotive, Inc., Willow Run Airport, Ypsilanti, Michigan.

**FOR SALE—Seats,** standard Douglas DC-3. 72 doubles, 72 singles. Beautifully upholstered in brown whip cord. New condition. Also, head rest covers, spare upholstery suits, spare seat parts, nine complete sets of flooring with widget fasteners and fixtures for Douglas seat installation, floor intercostals and seat side attach rails for nine aircraft. 21 or 24 seat arrangement. Southwest Airways Company, P. O. Box 268, So. San Francisco, Calif.

## ENGINEERS

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H. G. "Hank" Tarter  
Bendix-Stromberg  
Pittsburgh, Pa.  
August 23, 1939



B. J. "Barney" Vierling  
Pennsylvania-Central Airlines  
Pittsburgh, Pa.  
August 23, 1939



D. F. "Dan" Callahan  
U. S. Army Air Corps  
Paterson, N. J.  
August 24, 1939



James A. "Jim" Fisk  
Civil Aeronautics Authority  
Newark Airport  
August 25, 1939



Eugenia "Gene" Harding  
(Mrs. Lowell S.)  
Newark, N. J.  
August 25, 1939



B. H. "Ben" Dally (QB)  
Transcontinental & Western Air  
Newark, N. J.  
August 25, 1939



D. W. "Debs" Heath (QB)  
Transcontinental & Western Air  
Newark, N. J.  
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B. B. "Bernie" Southworth  
Transcontinental & Western Air  
Newark QB Meeting  
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A. F. "Art" Foster (QB)  
Hadley Field  
Newark QB Meeting  
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V. G. "Vince" Norton (QB)  
Bankers Trust Co.  
Newark QB Meeting  
August 25, 1939



Doris Fontaine  
American Airlines  
Newark-Nashville  
August 26, 1939



T. J. "Jap" Lee (QB)  
American Airlines  
Newark-Nashville  
August 26, 1939



Virginia DuMoulin  
American Airlines  
Nashville-Dallas  
August 26, 1939



Thelma Fuller  
American Airlines  
Dallas-Los Angeles  
August 27, 1939



W. F. "Bill" Bonnell  
American Airlines  
Dallas-Los Angeles  
August 27, 1939



A. R. "Skeet" Perkins (QB)  
American Airlines  
Dallas-Los Angeles  
August 27, 1939

# BOEDY'S ALBUM



**A. M. "Art" Scheerer**  
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Los Angeles, Calif.  
August 28, 1939



**Virginia Tatem**  
Wright Aeronautical Limited  
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August 28, 1939



**Margaret Ehlerman**  
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August 28, 1939



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Douglas Aircraft Co.  
Santa Monica, Calif.  
August 28, 1939



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Ham & Eggs, Inc.  
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Northrop Aircraft, Inc.  
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August 29, 1939



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Hawthorne, Calif.  
August 29, 1939



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**Lee F. Shoenhair (QB)**  
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El Segundo, Calif.  
August 29, 1939



**Alvin W. Baer**  
U. S. Navy Inspection  
Douglas, El Segundo, Calif.  
August 29, 1939



**G. E. "Ruckstey" Ruckstell**  
Douglas Aircraft Co.  
El Segundo, Calif.  
August 29, 1939



**E. H. "Chan" Chandler**  
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Douglas Aircraft Co.  
August 29, 1939



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Airsupply Company  
El Segundo, Calif.  
August 29, 1939



**Henry W. Upton**  
Douglas Aircraft Co.  
El Segundo, Calif.  
August 29, 1939



**Harvey C. Tafe**  
North American Aviation  
Inglewood, Calif.  
August 29, 1939

# IN FLIGHT

A PAGE FOR ALL PILOTS

## Flying Blind by Periscope

It will come as no surprise to most pilots that aircraft designers would like to eliminate the aircraft windshield. But the advent of high-speed jet aircraft has emphasized the need for eliminating this structure in the interest of aerodynamic cleanliness. At the University of Illinois, Dr. Stanley N. Roscoe has been working on a contract with the Office of Naval Research to determine how this can be accomplished.

In tests with a Cessna T-50, Roscoe used a periscope system to project images from the area around the aircraft onto an eight-inch screen, the pilot's only source of contact flight information since all the windows were covered. Eleven pilots flew the plane with standard configuration and with the periscope. Results convinced Roscoe that, with an eight-inch screen giving a wide angle of outside visibility and low magnification, a pilot can fly just about as well without using the windshield.

In his tests Roscoe blocked off various parts of the eight-inch screen reducing screen size to as little as two inches and used various amounts of magnification. He decided that image magnification increases the apparent rate of any changes in the planes movements and confuses the pilot.

In instrument weather with no view ahead, Roscoe feels that a pre-arranged color picture could be projected on the screen and moved by the gyro-compass in the same manner as a direct image. Full results of Roscoe's tests are available in a bulletin titled "Flight by Periscope" available from the University of Illinois.

## Duke Hedman Hangs Up His Fones

Robert P. (Duke) Hedman, who on Christmas Day of 1941 became the U. S.'s first official ace of World

War II by shooting down five Jap Zeroes in 18 minutes, has retired from the cockpit of The Flying Tiger Line's air freight planes to sell securities for the Pacific Company of California in Santa Monica. "Duke" was one of the organizers of the Flying Tigers and was No. 1 on its pilot seniority roster. He is retaining his title as vice president of the airline.

## Radio Added to Commercial Exam

In the future pilots taking the commercial pilot written examination will be required to answer questions on use of radio equipment, a point not used on current exams. New requirement reflects the growing importance of both radio and navigation aids with which applicants for commercial pilots licenses may be unfamiliar. CAA feels that "without the ability to utilize radio (pilots) would be seriously handicapped in many flight situations."

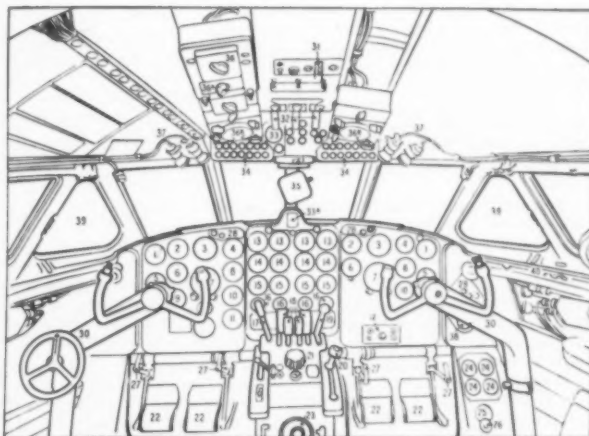
New examinations will include questions on tuning radio to communications, navigation and related frequencies, use of approved methods and phraseology in talking with control towers and airways stations and use of omniranges and four-course ranges.

## Breakfast in Idaho

How does a breakfast of "venison steak with hot cakes and choke-cherry syrup" sound? Well that's the kind of thing that's going on out in Idaho. Almost every month Idaho pilots get together for a mouth-watering breakfast—flying in from all directions. During the five perfect-safety years of Idaho aviation breakfasts, 3,494 aircraft have carried 10,000 persons the equivalent to 47 times around the world at the equator. Sounds like quite a flight before breakfast.

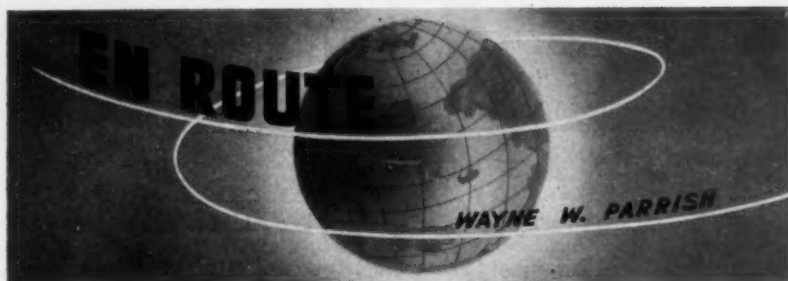


**Looking Ahead—** Tomorrow's transport pilot will find his cockpit instruments and controls resemble those shown here in the de Havilland Comets now in production for British Overseas Airways. Photo and related coded drawing show: (1) ILS indicator, (2) airspeed, (3) artificial horizon, (4) rate of climb, (5) ADF, (6) altimeter, (7) compass and directional gyro, (8) turn-and-bank indicator, (9) accelerometer, (10) Machmeter, (11) outside air temperature, (12) compass control panel, (13) r. p.m., (14) jet-pipe temperature, (15) oil pressures and temperatures and (16) rear bearing temperatures. Controls include: (17) basic parking, (18) throttles, (19) flap selector, (20) air brake,



(21) automatic pilot, (22) rudder pedals, (23) rudder trim, (24) brake pressure gages, (25 & 26) oxygen regulators, (27) rudder-pedal adjustment, (28) flying control booster warning, (29) hydraulic system low pressure lights, (30) control column with nose wheel steering wheel. Other items are: (31) secondary power control booster pump switch, (32) power control boosters change-over levers, (33) undercarriage warning light, (34) fire-warning lights, (35) magnetic compass and mirror, (36) ILS control box, (36a) VHF control box, (37) instrument lights, (38) hydraulic pressure gage, (39) direct-vision panels and (40) hot-air duct for windshield defogging.





**Hard by Borneo.** The 7,000 islands of the Philippine archipelago extend southward to within 35 miles of Borneo. Twice a week Philippine Air Lines sends a DC-3 as far south as Jolo, about a hundred miles from Borneo and you'll go far to find a scheduled airline stop more isolated from the whirl of western civilization.

Jolo is pronounced "Holo" like all Spanish words starting with the letter "J". It's a town of a few thousand on an island that might be twenty-five miles wide. There are few paved streets and no fine buildings and the one unpainted wooden hotel has a half-dozen rooms and looks like a half-abandoned boarding house on a forgotten side street of an eastern industrial city in the U. S.

The water surrounding the island is blue and there are good beaches—at least from the air—and smoke rises lazily skyward from patches of farms in the forested hills in the background. In every direction there are islands of various sizes visible through the sea haze.

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**Sultan Rivalry.** There was a thrill in flying a long way south of Manila toward Borneo. This was the tropics. Jolo is the focal point of Moroland, the center of some two million Moslems who live in the south end of the Philippine Republic and who once pledged allegiance to the American flag. Jolo is the land of the bolo and kris and more than a dozen other fierce weapons. Jolo has rarely been peaceful. No Huk or Communist trouble—just tribal warfare and fighting with the Filipino who is trying determinedly to maintain law and order.

I was told that I couldn't drive around the island. It wasn't safe. Three Moros were each claiming to be the sultan and the arguments were kinda rough. But the town of Jolo was safe enough, at least in daytime. In Jolo resided a half century ago the only sultan ever to be recognized by the United States. These Moros, all Mohammedans living in an otherwise Catholic country, got their name from the Spaniards long ago because they resembled the Moors who invaded Spain from Africa some centuries back in history.

Both from the air and on the ground Jolo is a strange sight for western eyes. In the shallow tidal water in the bay by the town there are hundreds of thatched bamboo huts built out over the water—the kind of a picturesque sight that makes photographers drool. What is called the Chinese pier extends out quite a distance and at the end are all manner of strange looking fishing boats and big nets spread out to dry.

**Chinese Pier.** Western clothes seem awfully out of place on Chinese pier. Living in one- and two-room huts on each side of the rickety bamboo structures are Chinese, Filipinos and Moros. Many of the women wear bright-colored saris or other garments. Most of the children are naked as jay-birds. Tourists are a rarity in Jolo and the visitor is overwhelmed with curious and friendly natives who crowd about until the pier is in danger of collapsing. Life is in the raw on Chinese pier. It's one community with built-in sanitation, courtesy of the twice-daily tide. It's a long and fascinating transition from a busy downtown street in the U. S. to this primitive faraway manner of life on the water just off Jolo in the South Pacific.



If it's local color you want, Jolo has it. Added to the bright reds and oranges and blues and greens worn by the women are large umbrellas in bright colors and some even in polka dot. Just why a dark-skinned Moro woman needs an umbrella to shade the sun is an unanswered question, but evidently it's the fashion. If you are a popular Moro belle, you must have a purple umbrella.

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**Sharks & Melons.** The open market is a sight to behold. Strange vegetables and fruits, tropical fish, chickens, rice and odd-looking (and unappetizing) cooked foods. One hawker proudly showed off a baby shark as I passed by. Dirty women with bawling



kids sat on the ground or on raised platforms selling their melons or oranges or grain. They were a queer assortment of human beings of all shades

from light brown to black, dressed in everything from Chinese to Moslem garb, some sad looking, some obviously in poor health, others bubbling over with laughter. I've been in lots of markets around the world. Jolo's market, while not the largest, was certainly the strangest. It was farther away from the U. S. than the 7,500 miles that separated it.

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**Pearl-Handled Kris.** While waiting for lunch at the hotel—and it was a surprisingly good lunch, too, prepared by a Chinese—an old Moro, turban and all, brought around a couple of bolo knives. I opened negotiations know-



ing that I'd be lucky to get the price down low enough by the time our plane left. The price started high. Negotiations were broken off time and again. Each time the price came down a bit. But I finally decided I'd do without a bolo—there wasn't enough time to bargain. At the turf airfield as our plane was about to leave in the afternoon my old Moro friend showed up, as expected, this time with some better knives. Just as the plane was about to leave I won my point. I got a pearl-handled kris—an 18-inch steel knife with ugly but effective curves along the two edges—for the price I wanted to pay.

Up in Zamboanga, 150 miles north of Jolo, the people there make miniatures of some 18 weapons of Moroland, all knives of various shapes and deadlines. The kris, I think, is the most handsome, although some may prefer the bolo which is just a plainer but effective knife. One good swing and off goes the head. Really good Moro weapons are getting harder to obtain as the preference tends toward shooting arms. It's not exactly a healthy part of the world if you don't know your way around.

Thanks to my friend, the Mayor of Zamboanga, I have a collection of these miniature Moroland weapons hanging in my den alongside my kris. Never know when an 18-inch knife with fancy curves may come in handy.

Jolo, incidentally, is quite a smuggling center. American cigarettes are very cheap, being brought in from Borneo at night by small fishing boats and then passed along on north toward Manila. Many other hard-to-get items, principally U. S. products, come in this way.

I've taken off downhill and I've taken off downwind, but never until Jolo did I take off in a DC-3 both downhill and downwind. The turf field is on a grade and just right for a Piper Cub. When the wind's the wrong way, that's just too bad. It was the wrong way when I was there. How we ever got off I'm not certain but I was sure lifting hard as rooftops and treetops passed just under my feet. Jolo's quite a place.

## NEWS SECTION

(Continued from opposite page 3)

on Avro Jetliner. Equipment consists of resistance wire elements molded into erosion-resistant synthetic rubber compound, which is installed on leading edges of wings, cabin air intakes and horizontal and vertical stabilizers.

**Faster Refueling:** New refueling truck developed by Air Materiel Command and built by Heil Co., Milwaukee, makes possible aircraft refueling rates of 600 gals. per min., contrasted with 160 gals. for current equipment. F-6 type servicing trailer refuels Boeing B-50 in 35 mins., a job requiring about seven hrs. with F-1A unit. Heart of new unit is centrifugal pump driven by 75-hp Continental engine.



### MILITARY

**ARDC School to Muroc:** Experimental flight test pilot school of Air Research and Development Command is moving from Wright-Patterson AFB, Dayton, to Edwards AFB, Muroc, and first classes at new location are scheduled to open May 1. School prepares AF pilots for engineering flying with courses in aircraft performance, stability and control along with refresher training in mathematics, physics and aerodynamics.

**Procurement Information Moves:** Central Military Procurement Information Office of Munitions Board has moved from Pentagon to 334 Old Post Office Bldg., 12th and Pennsylvania N.W., Washington, D. C.



### CONGRESS

**Non-Skeds Present Case:** Large irregular carriers last week were presenting their "case for survival" to Senate Select Committee on Small Business. They claimed they had developed a new form of low-cost air transport generally not competitive with certificated airlines but which faces extinction because of CAB's limitation on number of flights that can be operated in any one month. They also asserted that government had encouraged veterans to get into the business, that they were harassed by periodic inspections by CAA inspectors who didn't know the nature of their jobs, that they were denied facilities at government-supported airports, and that airport control tower operators wouldn't cooperate. Witnesses included **H. B. Robinson** of Peninsular Air Transport, and **I. E. Hermann**, Great Lakes Airlines. At the outset, Sen. **John Sparkman** (D., Ala.), committee chairman, emphasized that the hearing would not be an "overall investigation" of CAB but would only attempt to ascertain impact of CAB's limitation order on non-skeds.

**"Watch-Dog" Subcommittee:** Rep. **F. Edward Hebert** (D., La.) has been named chairman of a "watch-dog" subcommittee of House Armed Services Committee to investigate procurement practices of armed services. Other members: **O. C. Fisher** (D., Tex.), **Edward deGraffenried** (D., Ala.), **L. Gary Clemente** (D., N. Y.), **Charles H. Elston** (R., Ohio), **Jack Z. Anderson** (R., Calif.), and **Harry L. Towe** (R., N. J.).

**Confirmed by Senate:** Senate confirmed **D. W. Rentzel** to be Undersecretary of Commerce for Transportation, **Donald W. Nyrop** to succeed him as CAB Chairman, and **Charles Horne** to succeed Nyrop as CAA Administrator.

**Opposes CAB Funds:** CAB's request for \$25,000 in 3rd supplemental appropriation for 1951 for a mail pay-subsidy separation study is opposed by Sen. **Edwin C. Johnson** (D., Colo.), chairman of Senate Interstate and Foreign Commerce Committee, which is making a separation study. CAB states, however, that its proposed study is complementary to and does not duplicate committee's work.

**Commerce Expansion Bill:** Administration-backed bill (H.R. 3682) for expansion of Commerce Dept. activities in accordance with Hoover Commission recommendations may receive consideration at this session of Congress and is being closely studied by all forms of transport. Bill provides that Commerce Secretary "is authorized and directed to provide for the study, development and preparation of systematic route plans for all land, air and water transportation. The Secretary shall initiate action before regulatory agencies concerned with the respective classes of transportation when such action appears to him to be appropriate. The Secretary shall present his views to such regulatory agencies when recommendations at variance with his over-all program are made by individual carriers or groups of carriers."



### CIVIL AVIATION

**Curry Re-elected:** **A. B. Curry**, director of Dade County Port Authority, was re-elected president of Airport Operators Council at annual meeting in Memphis. Other officers: **Louis R. Inwood**, Kansas City's director of aviation, first vice president; **J. W. Reeves, Jr.**, general manager of Los Angeles Department of Airports, second vice president. Directors: **F. M. Glass**, director of Port of New York Authority's airport development department; **Edward H. McGrath**, commissioner of Massachusetts State Airport Management Board; **George Treadwell**, of Seattle.

**Airframe Shipments Down:** Shipments of civil planes in January totaled 348,300 lbs., down from 529,700 lbs. in same 1950 month, according to joint CAA-Bureau of Census report.

**Lightplane Shipments:** Total of 231 one to 10-place personal and executive planes worth \$1,410,000 were shipped in February, against 215 valued at \$1,175,000 in same 1950 month. January shipments topped February by 15 planes and \$547,000.



### CIVIL AERONAUTICS BOARD

#### Actions

- **E. W. Wiggins Airways** ordered to show cause why past period mail pay should not be increased by \$26,000 and future pay set at estimated annual total of \$245,000. Rates tentative pending hearing.
- **Central Airlines** ordered to show cause why past period mail pay should not be increased by \$100,000 and future pay set at estimated annual total of \$1,125,000. Rates tentative pending hearing.
- **Empire Airlines Certificate Renewal Case** expanded to include applications of United, West Coast, and Inland Airways for route authorizations between points in Washington and Oregon. United wants authority to operate direct between Walla Walla and Seattle; West Coast wants an extension of its coastal route to Spokane and Walla Walla; and Inland, a Washington intra-state line, applied for a CAB certificate. Case previously included Empire's bid for a Spokane/Walla Walla-Portland route.
- **British Overseas Airways Corporation** foreign permit amended to include Boston as intermediate between New York and London/Prestwick, subject to restriction against service to Boston and Bahamas on same flight. BOAC plans two weekly trans-Atlantic flights to Boston during summer months and one during winter.
- **Pan American World Airways** granted continued authority to suspend service on Fairbanks-Bethel, Alaska route. Authorization is valid until 60 days after decision in Board investigation to determine need for PAA's service over the route.

## Applications and Petitions

- **Resort Airlines** applied for exemption to transport "over 5,000" agrarian workers between British West Indies and U. S. cities. Exemption is requested from new CAB charter regulation which becomes effective May 1, and which may prohibit full-scale operation planned.
- **Eastern Air Lines** asked that order dismissing National Dismembership Case be set aside as "totally void" because: (1) record in the case was not before the Board but still in hands of the examiners; and (2) final action by the President is necessary since possible transfer of NAL's Florida-Havana "overseas" route is an issue.
- **Youth Argosy** petitioned for delay of CAB's new trans-Atlantic charter policy until Sept. 30 and requested authorization to arrange for air travel of its members to Europe this summer. A non-profit organization, Youth Argosy interprets Board policy and a new charter regulation as precluding its participation in 1951 trans-Atlantic travel. Last year it arranged for air transportation of 5,480 members by non-scheduled and foreign carriers.
- **New York Port Authority** and New York Mayor Vincent Impellitteri wired CAB Chairman D. W. Rentzel urging immediate Board action in the New York City Area Helicopter Case.

## AIRLINES

**Sabena Buys 6 DC-6B's:** Sabena Belgian Air Lines has ordered six 58-passenger Douglas DC-6B's for delivery in March and April, 1953. Company now has five standard DC-6's operating. Meanwhile, an American Airlines' DC-6B chartered to carry newsmen covering Gen. MacArthur homecoming flew non-stop San Francisco-Washington in seven hours six minutes. Capt. **William H. Dunn**, AA's superintendent of flying, who piloted the plane, said it was a standard airline flight and not a record attempt. He said he used regulation cruise settings of 1,200-hp high blower with fuel consumption of 430 gals. per hr. This gave plane average speed of 360 mph.

**ALPA Barks on DC-6B:** Because of pending contract negotiations, Air Lines Pilots Association told its pilots not to attend American Airlines' training classes on DC-6B. Pilots returned to classes, however, after Presidential Fact Finding Board agreed to allow consideration of DC-6B question in current hearings. United Air Lines, which has been negotiating with ALPA for some time on a new contract, was also said to be facing a similar situation. Both carriers planned DC-6B service for Apr. 29.

**Slick Buys More DC-6A's:** Three more Douglas DC-6A Liftmasters, cargo version of DC-6B, have been ordered by Slick Airways for 1953 delivery, bringing company's total order to six. Tentative plan of Slick is to operate three transcontinental one-stop round-trips weekly with first DC-6A's, starting about May 15. Kansas City, for refueling and crew change, will be only stop Los Angeles-New York. Planes will be 106,000-lb. versions with 30,000-lb. payload for this operation, except first one (already delivered), which is 100,000 lbs. with 26,000 lb. payload.

**U. S. Airlines Charged:** Sixteen counts of violations of Civil Air Regulations have been filed against U. S. Airlines, certificated cargo carrier, in U. S. District Court in Miami. Penalties of \$1,000 are asked on each count. Charges, brought by CAA's 2nd region enforcement chief, allege that on 11 C-46 flights U. S. Airlines did not carry full amount of fuel prescribed by CAR, and that in four of these instances manifests falsely stated amount of fuel carried. Also charged was one case involving overloading and four in which unqualified co-pilots were allegedly used.

**PAA Hits Interchange:** Asking dismissal of CAB's temporarily-approved Panagra-National interchange, four PAA directors of Panagra charge that the Grace & Co. interests in that airline are trying to dominate the air route between west coast of South America and east coast of U. S. The interchange, they said, would "ally

a half-unwilling Panagra and a wholly-unwilling Pan American with a National dominated by the Grace steamship interests through ownership of 174,000 shares of National stock."

**Interchanges Okayed:** Interchange agreements providing one-plane service between Miami, St. Louis and Kansas City via Eastern Air Lines and Mid-Continent, and between Miami, Memphis and Denver via Eastern and Braniff have been approved by CAB. Interchanges were called for by CAB in Through Service decision last November. Carriers must submit proposed schedules 15 days in advance.

**EAL-NEA Lease Extended:** CAB has extended until May 17 agreement under which Eastern Air Lines leases Convair-Liners from Northeast. Deal was to have expired Apr. 17 unless lines submitted Boston-New York-Washington interchange proposal beforehand. Although no proposal was filed, CAB said 30-day extension wouldn't be adverse to public interest.

**Sign REA Agreement:** Revised air express agreement, giving Railway Express Agency larger portion of revenue dollar, has been signed by 20 domestic airlines, including United and TWA. American and Eastern have not yet concurred. Other trunks who have signed: Colonial, Inland, Western, Capital, Continental, Braniff and Delta.

**Pilot Discretion Broadened:** Civil Air Regulation 61 has been amended effective May 18 to allow pilots of four-engined planes to exercise judgment in choice of next landing point in event of failure or feathering of one engine, where consistent with safety. Pilots formerly were required to land at nearest usable airport when engine failed or its rotation was stopped.

## FINANCIAL

### Airlines

**American Airlines'** first quarter profit reached \$2,914,610 after \$4,350,000 in federal income taxes, against \$1,331,285 net loss in same 1950 period after \$520,000 tax carryback credit. Total revenues, highest in company's history, were \$33,924,231, against last year's \$20,477,813. Expenses were up 19.4% to \$26,700,000. AA declared regular quarterly dividend of 87½¢ per share on 3½% cumulative preferred stock, payable June 1 to stockholders of record May 15.

### Manufacturing

**The Glenn L. Martin Co.** reported 1950 net profit of \$3,127,774 on \$40,133,000 sales, against 1949 net of \$5,131,500 on \$52,065,000 sales. Present backlog exceeds \$287,000,000, not including Canberra order, against \$72,000,00 at start of 1950.

**Douglas Aircraft Co.** first quarter profit \$1,681,581 against \$931,319 in same 1950 period. Sales were up from \$26,203,335 to \$39,348,699 and Apr. 1 backlog was \$788,552,064.

**North American Aviation** six-months' profit of \$2,805,000 Oct. 1-Mar. 31.

## LABOR

**UAW Rejects Douglas:** Rejection of Douglas Aircraft Co.'s offer of 10% wage increase was voted by United Auto Workers-CIO at company's Long Beach plant. Two-year contract doesn't expire until September. Douglas made similar offer to UAW last fall when Los Angeles aircraft industry granted increases averaging 6%, which were accepted by International Association of Machinists for company's Santa Monica and El Segundo plants. UAW refused offer and negotiations continued for 10% raise, which was finally rejected last week.

## AROUND THE WORLD

**IATA to London:** International Air Transport Association's 7th annual general meeting will be held Sept. 10-15 in Westminster School, London. Delegates will spend one day at annual Society of British Aircraft Constructor's Farnborough show.



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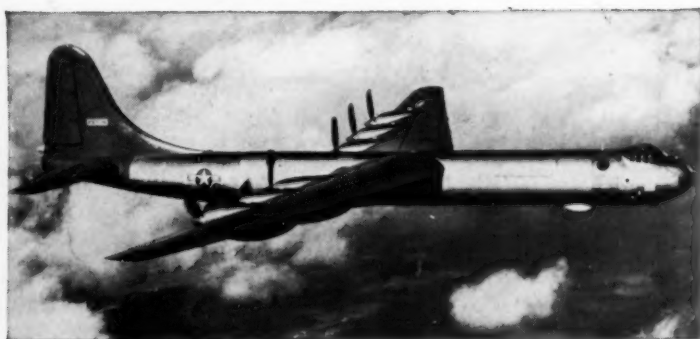
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Low and slow is how she goes when Billy Parker cranks up the old Gnome Rotary engine in his 39 year old pusher plane. Clear, unleaded gasoline spray through the stationary crankshaft into the 7 rotating cylinders then exhaust through the single valve in the cylinder heads. The bulky propeller urges the pusher along at 60 miles an hour with excellent maneuverability.

## Pusher-1951 VERSION



● High, wide and handsome is the intercontinental pace of the B-36. Its tricycle landing gear and pusher propellers clearly stem from early aircraft. But there the resemblance ends.

On each B-36 mission, its six 28 cylinder engines drink up to 21,000 gallons of 115/145 grade gasoline. Millions of barrels of this top grade aviation fuel have been supplied to military and commercial customers by Phillips Petroleum Company.

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May 7, 1951

Vol. 14 No. 42

## a LOOK at the WEEK

Look for top Air Force changes, with retirement of Lt. Gens. K. B. Wolfe, Deputy Chief of Staff, Materiel, and Benjamin Chidlaw, commanding general of Air Materiel Command. No word yet on replacements.

One of manufacturers' biggest problems is still the hiring of trained personnel, especially engineers. Some companies have turned to national advertising. Recruiting by manufacturers in the territories of others has caused some hard feelings in industry.

Air Force strength now 81 wings (a group plus supporting squadrons), hopes to reach 87 by June 30 and authorized 95-wing strength by September or October, 1952. However, not all wings will have first-line equipment.

One airline official's analysis of where last winter's big traffic gains came from: 60% from increased business activity and military travel due to mobilization, 25% from greater acceptance of air travel gained by better safety, dependability, etc., 15% from expansion of routes and services.

All task group reports dealing with airline mobilization are completed and final overall report will go to Del Rentzel, Undersecretary of Commerce for Transportation, soon. On civil side, training report isn't finished yet, one on airports is being revised.

Rentzel, incidentally, hasn't announced yet who'll handle aviation mobilization matters for him. Appointee will act as "civil aviation mobilizer," although this may not be the title.

CAA's annual revision and three-year projection of federal airport program, due out soon, will continue to stress improvements to Class 4 or larger terminal-type fields for defense needs.

Rapid developments in helicopter design and production, combined with lower unit costs, lead most operations-engineering-maintenance people in the airlines to believe (a view not yet held by management) that helicopter will fill the requirement for a local service airline aircraft.

More Air Force officers will be contributed by Naval Academy this year than by Military Academy, 177 to 119.

## \$14.6 Billion Asked for New Planes

Fiscal 1952 budget sent to Congress by the President asks \$14,685,715,000 for purchase of new planes.

It's a substantial increase over fiscal 1951's \$12.5 billion but nevertheless indicates a slackening of the procurement program because of the difference.

• **Increased materials costs** will eat into a large portion of the difference.

• **Slight remaining increase** will not be enough to finance greatly accelerated production originally planned for 1952.

Thus, \$14.6 billion will provide program only slightly greater than current year's, will cause spreading out of delivery schedules and move peak production back a year.

Here's the breakdown of procurement money:

**Army:** \$44,239,000 for planes.

**Air Force:** \$11,092,000,000, divided as follows:

	1951	1952
Aircraft and related material	\$6,796,964,287	\$10,952,620,000
Guided missiles	150,150,026	130,030,000
Industrial mobilization	80,338,610	9,380,000
	\$7,027,452,923	\$11,092,000,000

Other AF items of interest are \$1,800,000,000 for procurement other than aircraft, \$591,542,000 for organization, base and maintenance equipment, \$910,597,000 for operation of aircraft, \$425,000,000 for research and development (\$112,000,000 increase). AF also received \$625,000,000 for liquidation of previously let contracts.

**Navy:** \$3,549,476,000, divided as follows:

	1951	1952
Aircraft procurement	\$2,771,434,000	\$3,426,854,000
Ordnance for new aircraft	57,741,000	49,056,000
Guided missiles and target drones	101,261,000	33,425,000
Technical equipment for service training	4,735,000	10,938,000
Aircraft modernization	101,751,000	29,203,000
	\$3,042,922,000	\$3,549,476,000

Other Navy items include \$450,000,000 for liquidation of previously let contracts, \$132,000,000 for flight operations, \$281,500,000 for plane overhaul, \$165,000,000 for station operations, \$159,729,000 for research and development and \$6,221,000 for industrial mobilization.

Meanwhile, another appropriation, the third 1951 military supplemental, was on its way through Congress. In that bill, AF receives \$330,000,000 for new planes and initial spares, Navy gets no money for plane purchases, and Army is allotted \$43,740,000 (bringing its 1951 plane money to \$111,024,169).

## 33% Cut in Big 4 Mail Pay Proposed

Four largest U. S. domestic airlines would have their annual mail pay cut by one-third, or about \$6,000,000, under a CAB proposal to set their mail rate temporarily at 42c per ton-mile retroactively from Jan. 1, 1951.

CAB is still working on final mail rates for American, United, Eastern and VNA. Interim 42c rate is necessary, however, to avoid or minimize the possibility of a "capture of reserve compensation" when the final rate is established, it added.

In other words, CAB considers present rates excessive, particularly in view of 1950's operating results, and be-

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lieves that unless they're reduced now, the carriers would have to repay the government substantial sums when final pay is set.

Present rates are paid on a block-rate system ranging from high of 75c a ton-mile for 0-2500 mail ton-miles per day to low of 40c for 30,001 and over. Under this system, estimated average ton-mile earnings (all of which would be reduced to flat 42c with no block-rate system) have been:

**American:** 56c to 57c.

**United:** 52c to 53c.

**Eastern:** 60c to 65c.

**TWA:** 58c to 60c.

Airlines and CAB, in informal conferences, have been unable to agree on various issues connected with a final rate, and it is expected to be some time before such a rate is set. Formal hearings are tentatively scheduled to start June 4.

### 3 Win AF Convertiplane Competition

Air Force's convertiplane design competition has been won jointly by three manufacturers—McDonnell Aircraft Corp., Sikorsky Aircraft Division of United Aircraft Corp., and Bell Aircraft Corp.

Their designs were selected for "further development" but AF gave no indication whether actual construction of flying articles is planned. Total of 19 designs was submitted by 17 companies. Categories and winners:

**Unloaded Rotor:** McDonnell design was best in this category. Plane has helicopter-type rotor for take-offs and landings plus fixed wings to provide lift in forward flight, and either piston or jet engines for forward propulsion. Rotor revolves freely without power when forward flight engines are in operation.

**Tilting Rotor:** Won by Bell. Rotors, mounted at wing tips, shift their axis to become propellers for forward flight.

**Retractable Rotor:** Sikorsky's winning design was of this type, which consists of plane equipped with fixed wings and forward propulsion unit, plus rotor which can be braked to a stop and partially or fully retracted during forward flight.



## MANUFACTURERS

**New Buick Plant:** New plant will be built in Chicago area by Buick Division of General Motors Corp. for final assembly of Wright J-65 Sapphire jet engines. Tentative location of plant, which will have 1,000,000 sq. ft. of floor space, is in Lyons Township, 16 miles from Chicago. Engine components will be made at Buick's Flint, Mich., plant and shipped to Chicago for assembly.

**Billion Backlog:** United Aircraft Corp.'s backlog is "pretty near \$1 billion," according to **H. M. Horner**, presi-

dent. UAC's first quarter net income was about \$1.25 a share, against \$1.18 last year.

**Tax Write-Offs:** Certificates of necessity on new construction (five-year tax write-off) totaling \$68,581,650 have been granted to Buick Division of General Motors Corp. in connection with Wright J-65 Sapphire jet engine program. Other recent grants: General Electric Co., facilities for jet engine parts production at Louisville, Ky., \$14,462,947; Weston Electric Instrument Corp., facilities for production of course indicator aircraft radio, Newark, N. J., \$1,500,000; Camden Machine Co., facilities for jet engine component production, \$14,500; Intercontinental Mfg. Co., facilities for production of aircraft assemblies, Garland, Tex., \$12,428.

**AHS Awards:** American Helicopter Society gave top 1951 award, the Dr. Alexander Klemin award, to **Igor Sikorsky**, and second highest award, Kossler award, to Col. **Richard T. Knight**, head of MATS' Air Rescue Service. At annual meeting in Washington, AHS elected following officers for coming year: **Bartram Kelley**, Bell Aircraft Corp., president; **D. D. Viner**, Sikorsky; **T. R. Pierpont**, Piasecki; **C. M. Belinn**, Los Angeles Airways; **C. R. Wood**, McDonnell, and **R. Allen Price**, Parsons Industries, vice presidents.

**People:** **C. B. Gracey**, Boeing Airplane Co.'s Seattle factory service manager, elected to newly-created post of vice president-operations . . . **Frank A. Learman**, former vice president of Consolidated Vultee, named executive vice president and general manager of Hiller Helicopters.



## PLANES & EQUIPMENT

**Stronger Aluminum:** New stronger aluminum alloy, temporarily designated XA78S, has been developed by Aluminum Company of America. New alloy, 10% stronger than existing ones, will permit lighter airframe weight since less metal will be needed to meet structural strength requirements. XA78S is available to plane builders only for experimental and controlled production use at present.

**Turboliner to Muroc:** Convair Turboliner flew from San Diego to Edwards Air Force Base, Muroc, in 47 min. Plane was flown by Convair crew which will stay with it for additional flying at Muroc, after which it will be turned over to Allison Division of General Motors.

**Larger L-19:** Prototype model of larger version of L-19 liaison plane is being built by Cessna Aircraft Co. Company is said to be financing prototype without military contracts but with feeling that there's military need for such a plane.

**New British Engines:** British Supply Ministry removed two aircraft engines from secret list: Napier Nomad, composite piston-turbine engine driving a propeller, and Bristol Olympus jet, modified version of which is being built in U. S. by Wright Aeronautical Corp. Both engines feature extremely low fuel consumption. Thrust ratings were not revealed.

**Airborne Radar:** Production of new series of airborne transport radar, models E-2, ES-2 and ESB-2, is being started by Allison Radar Corp., which is discontinuing production of earlier models.

**Rocket Specs:** Regent Rocket, which made successful first flight at Henderson, Tex., Apr. 22, has 1,910-lb. empty weight, 3,150-lb. gross, 60-gal. fuel capacity, 770-lb. payload. The plane, made by Regent Aircraft Corp., is all-metal five-passenger tricycle-geared craft powered by 260-hp engine. Maximum speed at sea level, normal rated power, is 198 mph; cruising speed at 75% power, 177 mph.

# American Aviation

News Issue



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**Communications System:** New intraplane communications system in which voice distortion and fading has been reduced as much as 95% and earphone discomfort minimized, has been developed by Air Materiel Command. Design was by RCA Laboratories, Camden. Small amplifiers are used at each station instead of one large central amplifier. Set range has been stepped up to 250-6,000 cycles a second from 300-4,000.

## MILITARY

**Civil School Policy:** Air Force civilian contract flight schools will be approved only on airfields in locations where flight training will not tend to confuse identification of aircraft in the area, according to new AF policy. AF said it wants to keep flight training activities in Air Defense Identification Zones to a minimum to prevent overloading existing identification facilities. Each bid offered will be screened to determine what effect a school in that area will have on identification problem and "only those airfields which will not aggravate the air defense mission of the Air Force will be approved for location of civilian contract basic pilot training schools." Proposed sites must first be approved by commanding general, Air Defense Command, Ent AFB, Colo., before submitting bid to Air Materiel Command.

**New Air Force:** Technical Training Air Force will be established soon by AF at Biloxi, Miss., for training electronics men, mechanics, radio operators, etc. It will be under Air Training Command.

**Gilpatric Succeeds Stuart:** Roswell L. Gilpatric, New York lawyer, was named to replace Harold Stuart, resigned, as Assistant Secretary of the Air Force for civilian components.

**Burden Aids Finletter:** William A. M. Burden, former Assistant Secretary of Commerce for Air, is working as special assistant to Secretary of the Air Force T. K. Finletter for research and development and civil aviation.

## CONGRESS

**Feeder Prototype Proposed:** Legislation amending Public Law 867—prototype aircraft testing act—to authorize \$8,000,000 for design, development and construction of local service airplane was introduced by Senators Edwin C. Johnson (D., Colo.) and Owen Brewster (R., Me.). Project would be carried out under contract.

**Non-Sked Hearing:** CAB Chairman D. W. Rentzel, in testimony before Senate Select Small Business Committee, defended CAB's action in limiting monthly flights of irregular air carriers. Only type of service that can be operated without certificate is "irregular or spasmodic type of service," he said. Non-skeds have lower fares because they don't have to fly until they have full loads, serve only select traffic points providing maximum long haul, leased planes from military for low rates, and don't have to have dispatching or communications systems, he added.

To show that pressure had been exerted on CAB by non-skeds, he revealed letter by Amos Heacock, head of Aircoach Transport Association, asserting: "The CAB must be attacked directly—its right to draw funds from the Post Office Dept., must be attacked—its prestige as a government agency must be attacked . . . To attract wide popular support we should campaign for a people's airline system—at rates the worker, the housewife, the small businessman can afford . . . We want a broad exemption recognizing our vital role as a yardstick to expose the colossal inefficiency of the scheduled airlines."



## CIVIL AERONAUTICS BOARD

### Applications and Petitions

• **Trans World Airlines** asked CAB to establish permanent mail rates for future trans-Atlantic operations and to dismiss December, 1950 show cause order proposing revised rates for operations subsequent to PAA/AOA merger. TWA challenged Board estimate that revised rates would result in \$8,133,000 annual mail pay and urged that consideration be given to factors necessitating increased rates.

• **Pan American** directors of Panagra asked withdrawal of tentative CAB approval of National/Panagra interchange and consolidation with New York-Balboa Service Co. of investigation of National/W. R. Grace control issues. Directors said activities of Grace and National require "closest scrutiny" by CAB.

### Actions

• **Agreements of Trans World Airlines, Hughes Tool Co., and The Equitable Life Assurance Company** involving financing arrangements for TWA aircraft purchases approved by CAB. Agreements concern raising additional equity capital of \$10 million to be used in payment for Martin 4-0-4 and Lockheed Constellation aircraft.

• **Transocean Air Lines and Seaboard & Western Airlines** authorized to operate combined total of ten monthly flights from Europe to U. S. carrying refugees under contract with International Refugee Organization. Exemption to Transocean permits four flights monthly from Munich to U. S.; S&W's authorizes six flights from Europe generally. Board awards are valid for six months.

### Examiners Reports

• **American Air Transport's** application for an individual exemption to continue large irregular carrier operations recommended for denial by Examiner R. Vernon Radcliffe. Board denied application tentatively last July, but granted hearings on appeal.



## AIRLINES

**PAL Management Quits:** Management group of Philippine Air Lines, headed by Col. Andres Soriano as president and A. Soriano and Co. as general managers, resigned April 25 in protest against "undue interference on the part of some of the members of the board in the functions of management." All officers quit with Col. Soriano. Meanwhile, PAL employees, including pilots and radio officers, were threatening to resign unless Soriano's group is retained and upheld. Manila newspapers were supporting him unanimously. He said he had particularly objected to a proposal to send one of the government directors to inspect PAL offices abroad.

**NWA Names Mackay:** Malcolm S. Mackay, a director of Northwest Airlines since 1948, has been elected to the important post of executive vice president of the airline, with headquarters in St. Paul. He has been a special partner in Laidlaw and Co., New York investment firm, and is a commercial pilot.

**Coach Fare Cut:** Temporary cut-back from \$11.70 to \$9.95 in Los Angeles-San Francisco coach fares charged by three airlines was ordered by California Public Utilities Commission. Cut-back is for period Mar. 1 to May 10, and Western, United and California Central were directed to refund the difference "where practical" to passengers charged the higher fare. Increase, which had been suggested by CAB, was approved by PUC effective May 10. PUC rejected airlines' contention that their tariffs are subject primarily to CAB regulation.

**UAL Delays DC-6B, AA Starts:** United Air Lines postponed start of DC-6B service, scheduled for Apr. 29, but American Airlines started flying its first three planes on that date. UAL pilots say they won't fly plane until pay matters are settled. Company contends present contract covers DC-6B and provides more pay for plane's greater speed and carrying capacity. AA pilots agreed to fly when Presidential Emergency Board hearing AA-ALPA wage dispute agreed to consider DC-6B matter.

**AA** put planes on Mercury, cutting time 40 mins. westbound, 30 mins. eastbound. Los Angeles-New York is 8 hrs. 55 min., westbound 9 hrs. 25 min. Planes replace DC-6 sleepers on Mercury.

**AA Adds Coach:** Second daily DC-6 coach flight will be added June 3 by American Airlines between New York and Los Angeles via Dallas. Present flight stops at Chicago. TWA, which operates similar service via Chicago with Constellations, is reported to be planning extra flights via St. Louis.

**TPA Gets Mail Rights:** CAB in 2-1 decision approved by President Truman voted to underwrite continued competition for Hawaiian Airlines by authorizing Trans-Pacific Airlines to carry mail. Members Lee and Adams voted for TPA, Ryan against. Rentzel and Gurney did not take part.

**NWA Buys, Leases DC-4's:** Northwest Airlines, whose present plans are to sell all 20 of its Martin 2-0-2's, has bought one DC-4, to cost total of \$415,000 by time it is ready for service May 15, and is leasing three DC-4's for two years from Transocean Air Lines. Two TOAL planes will be available in May, third in July. This will increase NWA fleet to 22 DC-4's and 10 Stratocruisers. NWA expects to increase Boeing utilization to 9 hrs. daily this summer, and DC-4's to 10 hrs. Pilot training program which has tied up one Boeing and one DC-4 for several months will be completed about May 10.

**Big MCA Financing:** Mid-Continent Airlines will carry out a \$4,700,000 program of capital expenditures, including purchase of six new Convair 340's, by the end of 1953. In its first public financing in 11 years, MCA has, as part of the program, filed registration statement covering proposed offering of \$2,000,000 12-year 4½% convertible debentures to be underwritten by group headed by Lehman Brothers and Kalman and Co. Inc. Borrowings from banks and others will make up rest of funds. Program includes construction of new hangar and maintenance facilities at Minneapolis-St. Paul Airport during 1951.

**SWA Asks Mail Pay Cut:** Southwest Airways asked CAB to cut its mail pay effective May 1. It is one of few times that an airline has requested a cut. SWA said it has reached point where reduction is warranted and asked rate of 33.5c per revenue plane mile flown, against 1950's average of 40.83c.

**Capital Buys 5 Connies:** Five more L-749 Constellations, which KLM Royal Dutch Airlines will turn back to Lockheed for L-1049's, will be bought by Capital Airlines for 1953 delivery. Price will be \$550,000 each, including overhaul. Planes will bring Capital's Connie fleet to 12.

**Chicago Shuttle:** Midway Airlines has been authorized by CAB to conduct lightplane shuttle operations between Chicago airports, carrying persons and their baggage. Service, with fixed-wing planes having maximum take-off weight of less than 12,500 lbs., will be between Midway Airport, on one hand, and Meigs Field, Sky Harbor Airport and O'Hare International Airport, on the other, and between O'Hare and Meigs. CAB's exemption is good until 60 days after decision on Midway's application for a certificate.

**AA Contracts With Officers:** Contracts have been entered into by American Airlines with 10 of its top officers, including C. R. Smith, president, under which they will serve as consultants and advisors to the airline after their 60th birthdays. These officers retire at 60 compared with AA's normal retirement at 65. Contracts will be for not to exceed 12 years at annual pay rates not over \$12,000 (\$15,000 for Smith) "so long as no service is or has been rendered to a competitor and provided the officer makes himself reasonably available to the corporation." Other officers included: R. E. S. Deichler, v.p.-sales; L. G. Fritz, v.p.-operations; W. J. Hogan, v.p.-treasurer; William Littlewood, v.p.-engineering; O. M. Mosier, v.p., and four who were not named.

**BOAC Suspends Route:** British Overseas Airways Corp. has suspended its unprofitable route down the west coast of South America to Lima, Peru, and Santiago, Chile. Mid-Atlantic route now terminates at Kingston, Jamaica. BOAC continues to operate from London down east coast of South America.

**Colonial Investigation:** Hearing in CAB's investigation to determine whether Colonial Airlines, its president Sigmund Janas, Sr., and A. M. Hudson, vice president, have violated Civil Aeronautics Act, economic regulations and uniform system of accounts, has been postponed to June 4. CAB Examiner Thomas L. Wrenn will handle the case. Washington law firm of Steptoe & Johnson will represent Colonial.

**AAAE Officers:** New officers elected by American Association of Airport Executives: Walter Betsworth, Waterloo, Ia., president; Cecil Meadows, Bakersfield, Calif., 1st vice president; Francis A. Bolton, Columbus, O., 2nd vice president; Robert Aldrich, Minneapolis-St. Paul, 3rd vice president, and Melvin H. Nuss, Reading, Pa., secretary-treasurer. New directors: John E. Casey, Chicago; Paul B. Koonce, Houston; Robert Neblett, Jackson, Miss.; Richard Aderhold, Jr., Atlanta.

## 1950 Airline Salaries

Following are 1950 airline salaries as reported to CAB:

### Northwest Airlines

Croil Hunter, pres. gen. mgr. and dir., \$45,000 salary; L. G. Glotzbach, v.p. and asst. to pres., \$17,062.19 (up \$82.19); E. I. Whyatt, exec. v.p. and dir., \$20,000.16 (up 16c); A. E. Floan, v.p. and secy., \$17,000.16 (up 16c); K. R. Ferguson, v.p. eng. and planning and dir., \$24,000; Amos Culbert, v.p. traffic, \$15,000; L. S. Holstad, treas., \$15,000 (down \$24.61); Frank C. Judd, regional v.p., \$15,000; D. J. King, v.p. Orient region, \$17,024.84 (down \$65.03); C. L. Stewart, asst. secy., \$6,523.25; William J. Eiden, asst. treas., \$10,800; A. D. Piepgras, asst. treas., \$11,878.76; R. O. Bullwinkel, v.p. traffic (resigned Feb. 15, 1950)—replaced by Amos Culbert, \$10,000 (down \$5,000).

### Lake Central Airlines

(NOTE: Formerly Turner Airlines)

Roscoe Turner, pres. and dir., \$9,000 salary; John V. Weesner, exec. v.p. and dir., \$10,000; Reginal E. Ross, treas., \$10,000 (up \$2,800); Robert W. Clifford, v.p. oper., \$9,000; Mel Anderson, v.p. traffic \$6,300; K. Robert Hahn, secy.-gen. counsel, \$7,200.



## CIVIL AVIATION

**Air Races in August:** National Air Races will be held in Detroit this year on Aug. 18-19 with "limited military participation provided the international situation at the time of the races permits." Sponsorship will be by Aero Club of Michigan and Air Foundation, with Benjamin Franklin as general manager.



## FINANCIAL

### Manufacturing

**Bell Aircraft Corp.'s** 1950 profit was \$1,468,120 on \$36,362,832 sales, against 1949 profit of \$204,142 on \$11,829,475.

**Boeing Airplane Co.** first quarter profit after taxes of \$1,113,165 on \$73,122,148 sales against \$1,381,527 profit in same 1949 period.

**Republic Aviation Corp.** first quarter profit \$404,754 on \$19,437,760 sales against \$363,033 net on \$15,195,572 in same 1950 quarter.

### Airlines

**Northeast Airlines'** first quarter net loss of \$30,218 on operating revenues of \$1,459,260 against \$271,132 net loss on \$1,112,149 revenues in same 1949 period.

**Northwest Airlines'** first quarter loss \$1,614,000 against \$3,611,000 loss in same period last year. System operating revenues were \$9,193,796, including record \$5,827,047 domestically.

**Delta Air Lines'** first quarter profit after taxes \$710,819 on \$6,454,804 revenues against \$272,644 net on \$4,744,412 last year.